



# **From data to maps to apps: what's new in NSW**

4 May 2021

# Data

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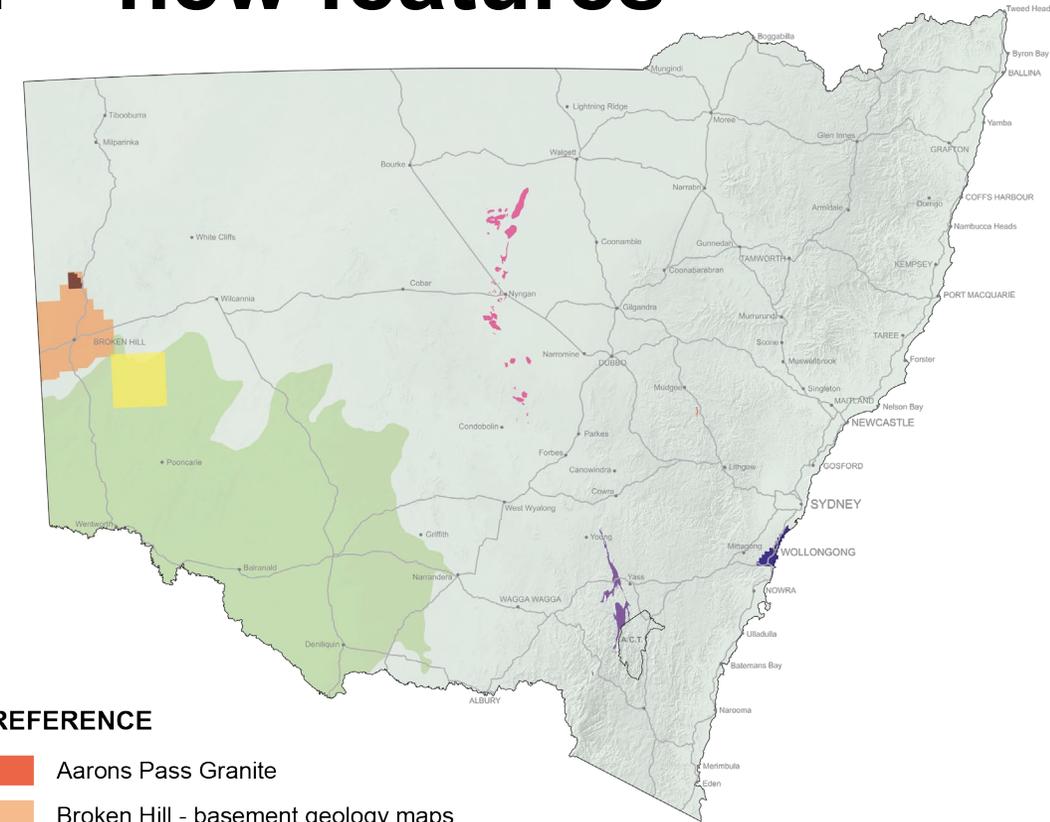


# NSW Seamless Geology V2.1 – new features

- Updated geology of the Sydney Basin and Illawarra region
- Improved geological detail in the Broken Hill area
- Updated geology of Kinchega National Park, near Menindee
- Murray Basin – divided into constituent units
- Updated boundaries of sub-basins in the Darling Basin
- Updated stratigraphy and nomenclature of the Fifield Suite
- Metamorphic mapping – split into major geological events

## Available:

- [digs.geoscience.nsw.gov.au](https://digs.geoscience.nsw.gov.au)
- [minview.geoscience.nsw.gov.au](https://minview.geoscience.nsw.gov.au)



## REFERENCE

- Aaron's Pass Granite
- Broken Hill - basement geology maps
- Corona-Kantappa Creek 1:25 000 Geological Sheet - trendlines
- Fifield Suite upgrade
- Kinchega National Park geology
- Mountain Creek Volcanics
- Murray Basin geology upgrade
- NSW metamorphic dataset - statewide
- Permian-Mesozoic geology - Illawarra region

# Mineral potential data

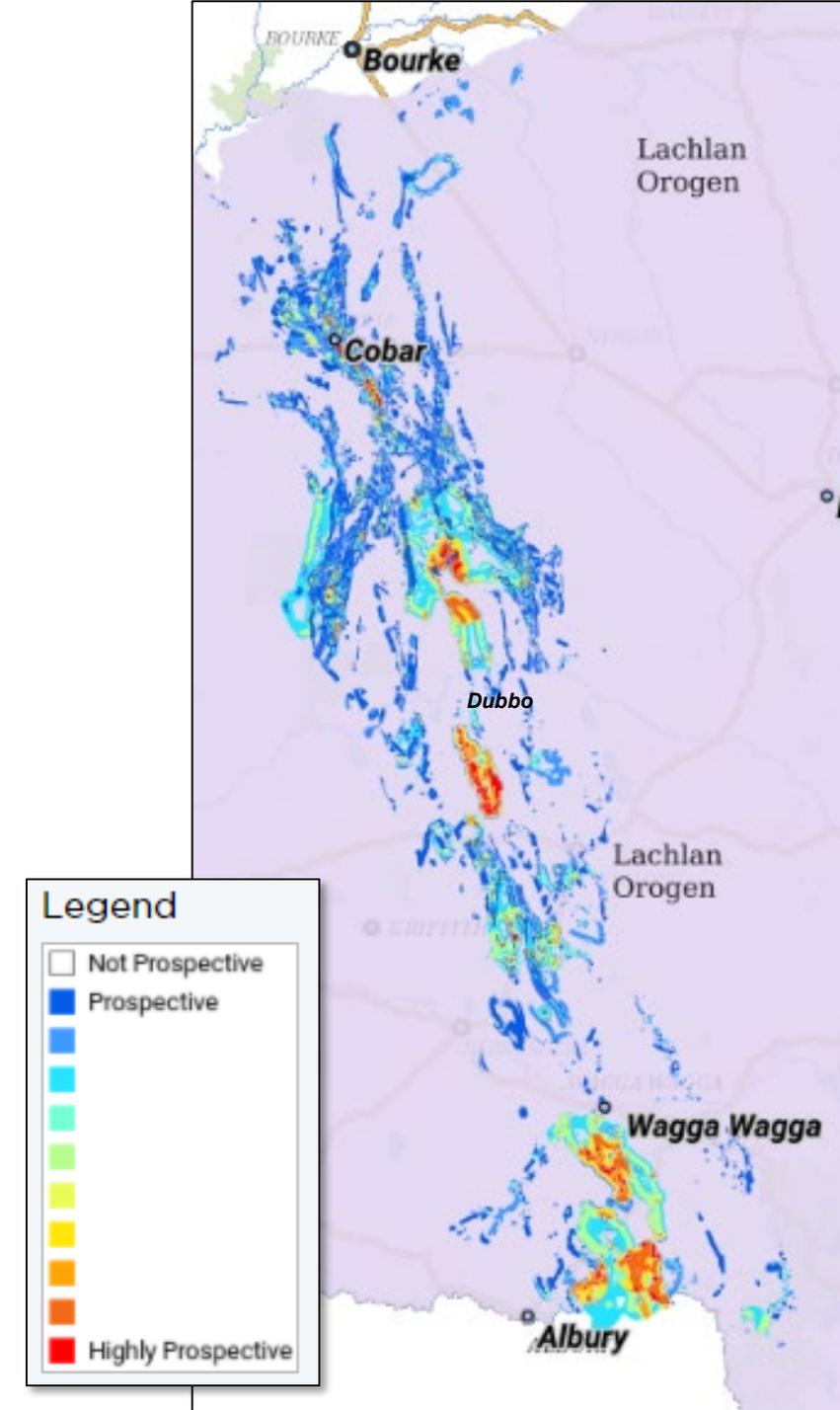
Mineral potential study areas:

- Central Lachlan Orogen
- Southern New England Orogen
- Eastern Lachlan Orogen
- Zone 54 – Curnamona Province and Delamerian – Thomas Orogen

Four mineral potential data package contains; training points, study area, predictive maps and mineral potential map for each model.

**Available:**

- [digs.geoscience.nsw.gov.au/product/9261](https://digs.geoscience.nsw.gov.au/product/9261)
- [minview.geoscience.nsw.gov.au](https://minview.geoscience.nsw.gov.au)



# NVCL – update

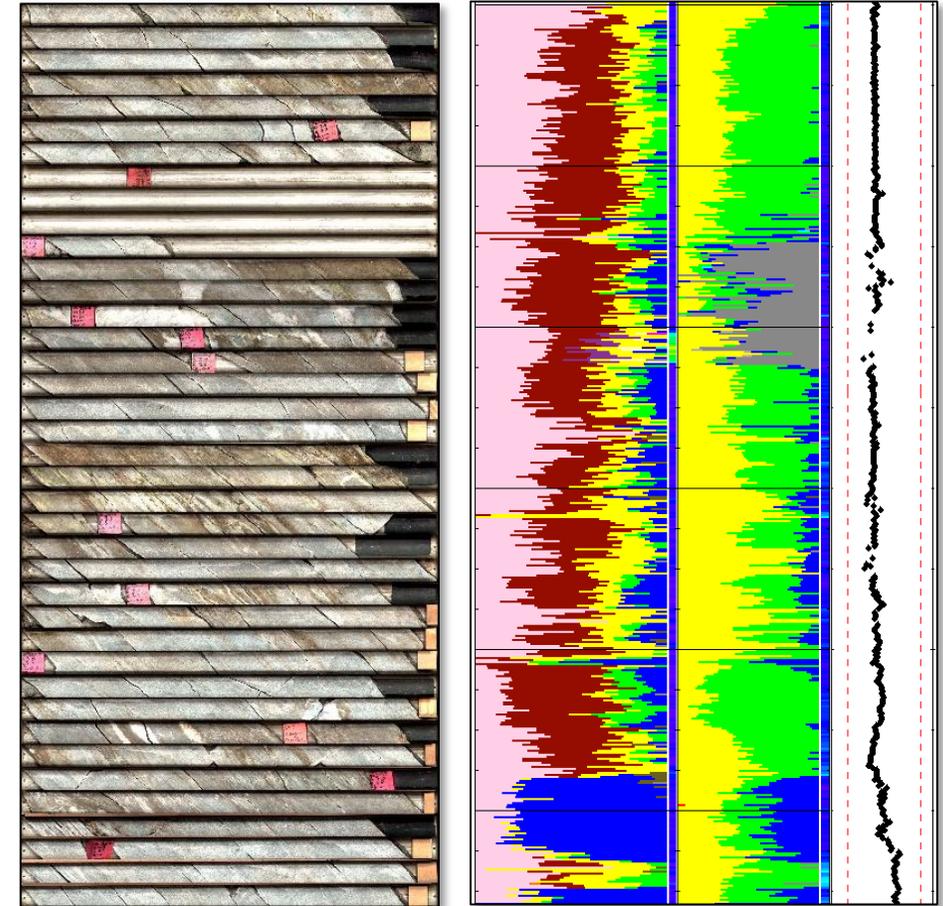
Drill core scanning system for imaging and acquiring spectral information about rock, ore and alteration minerals in drill core, chips and pulps

HyLogger™ data

- 143 additional holes in 2020
- 630 total holes scanned
- 163 km drillcore

## Available:

- Search for holes scanned on website
- [www.resourcesandgeoscience.nsw.gov.au/miners-and-explorers/geoscience-information/services/drill-core-libraries/national-virtual-core-library](http://www.resourcesandgeoscience.nsw.gov.au/miners-and-explorers/geoscience-information/services/drill-core-libraries/national-virtual-core-library)
- [minview.geoscience.nsw.gov.au](http://minview.geoscience.nsw.gov.au)



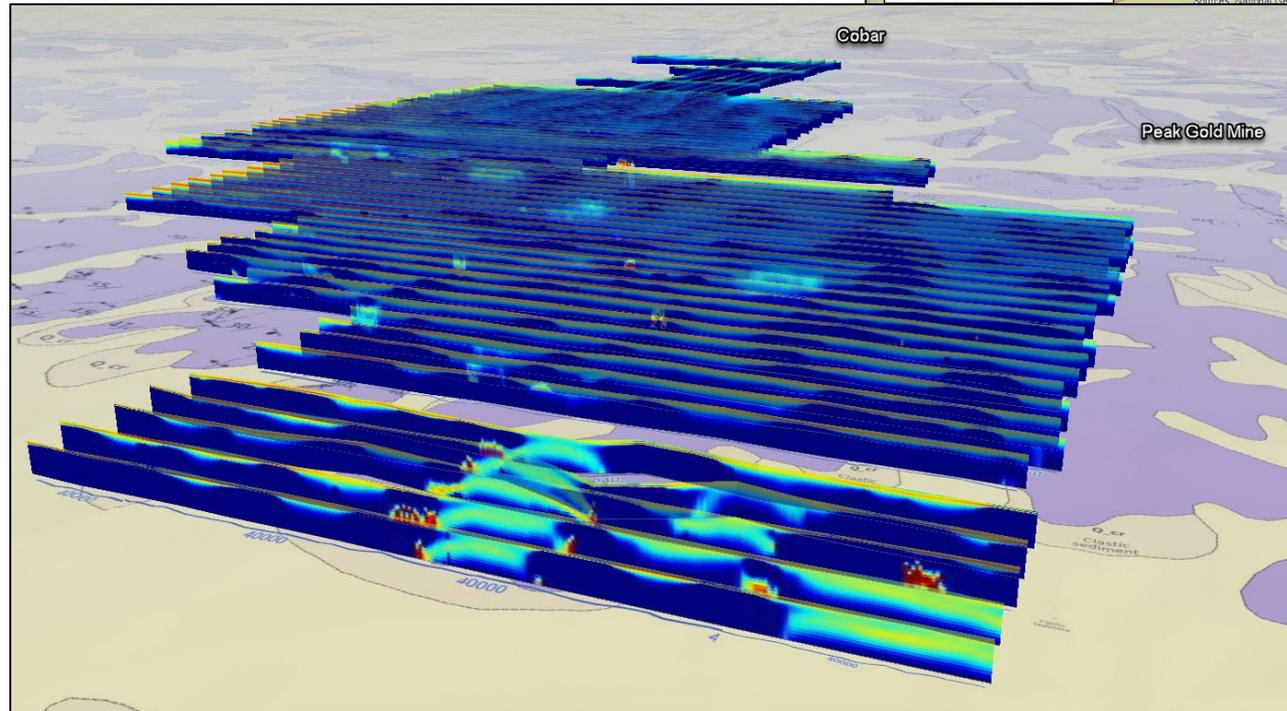
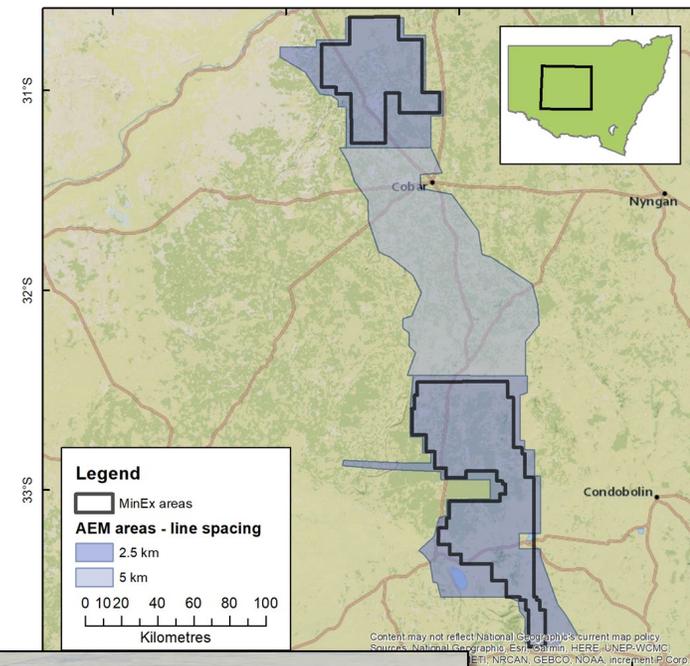
Discover					
Drillhole name	Hyperspectral (A4 plot)	Hyperspectral (0.25 m bins)	Assays (1 m bins)	Drillhole info	Core image
Discovery Ridge DRDD002	<a href="#">A4 plot</a>	<a href="#">View</a>	<a href="#">Download</a>	<a href="#">Details...</a>	<a href="#">Preview</a>
Discovery Ridge DRDD003	<a href="#">A4 plot</a>	<a href="#">View</a>	<a href="#">Download</a>	<a href="#">Details...</a>	<a href="#">Preview</a>
Discovery Ridge DRDD011	<a href="#">A4 plot</a>	<a href="#">View</a>	<a href="#">Download</a>	<a href="#">Details...</a>	<a href="#">Preview</a>
Discovery Ridge DRRCD006	<a href="#">A4 plot</a>	<a href="#">View</a>	<a href="#">Download</a>	<a href="#">Details...</a>	<a href="#">Preview</a>

# Cobar AEM survey

- MinEx CRC National Drilling Initiative
- Cobar AEM survey released 2020
- 4 new company infills surveys released 2021
- Cobar AEM Survey view

**Available:**

[minview.geoscience.nsw.gov.au/](http://minview.geoscience.nsw.gov.au/)

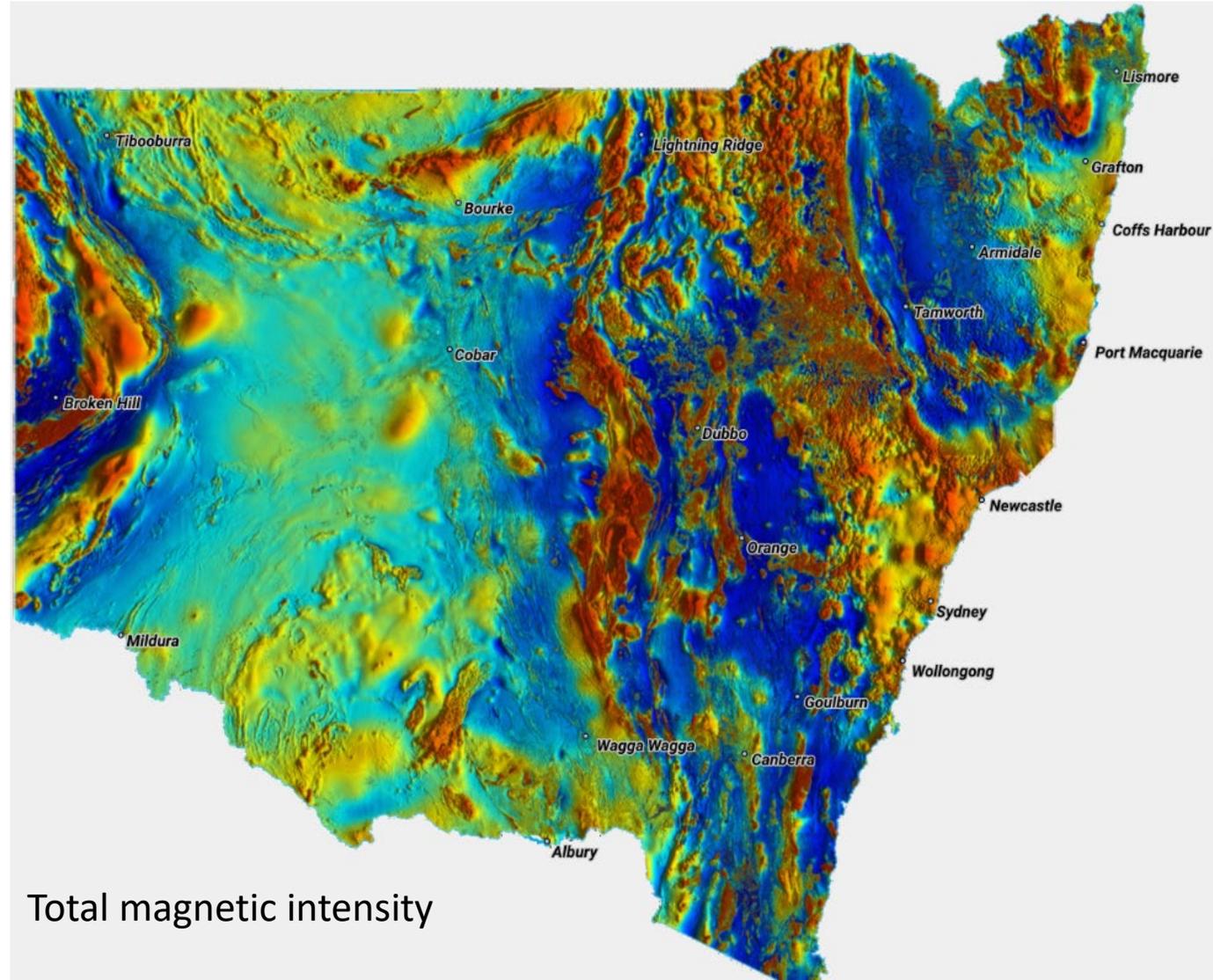


# Statewide magnetic images – new merges

- Total Magnetic Intensity
- First Vertical Derivative
- Second Vertical Derivative
- Tilt Angle Filter

## Available:

- [digs.geoscience.nsw.gov.au/product/9263](https://digs.geoscience.nsw.gov.au/product/9263)
- [minview.geoscience.nsw.gov.au](https://minview.geoscience.nsw.gov.au)



Total magnetic intensity

# Drilling and surface assay geochemistry database

Available to view and download:

[minview.geoscience.nsw.gov.au](http://minview.geoscience.nsw.gov.au)

YEAR OPEN	Total # Reports with Data Released	Total Drillholes Released	Summary Drillhole Samples	Summary Drillhole Assays	Total Surface Samples Released	Summary Surface Assays
2011	64	1,664	29,354	130,323	6,604	73,263
2012	118	1,089	21,493	259,699	17,863	410,365
2013	233	5,166	54,887	587,981	56,467	793,200
2014	274	7,657	86,022	915,825	69,104	1,095,170
2015	209	5,399	51,560	1,090,743	45,091	1,017,932
2016	168	5,527	47,437	648,652	24,339	475,267
2017	82	3,757	90,186	758,330	38,160	466,821
2018	69	1,030	17,288	248,332	9,469	205,539
2019	180	5,530	56,461	1,609,580	73,531	1,258,700
<b>2020</b>	<b>97</b>	<b>3,150</b>	<b>28,261</b>	<b>904,129</b>	<b>30,251</b>	<b>569,440</b>
<b>2021*</b>	<b>12</b>	<b>148</b>	<b>8,333</b>	<b>98,945</b>	<b>1,771</b>	<b>57,680</b>



\* At 14/4/2021

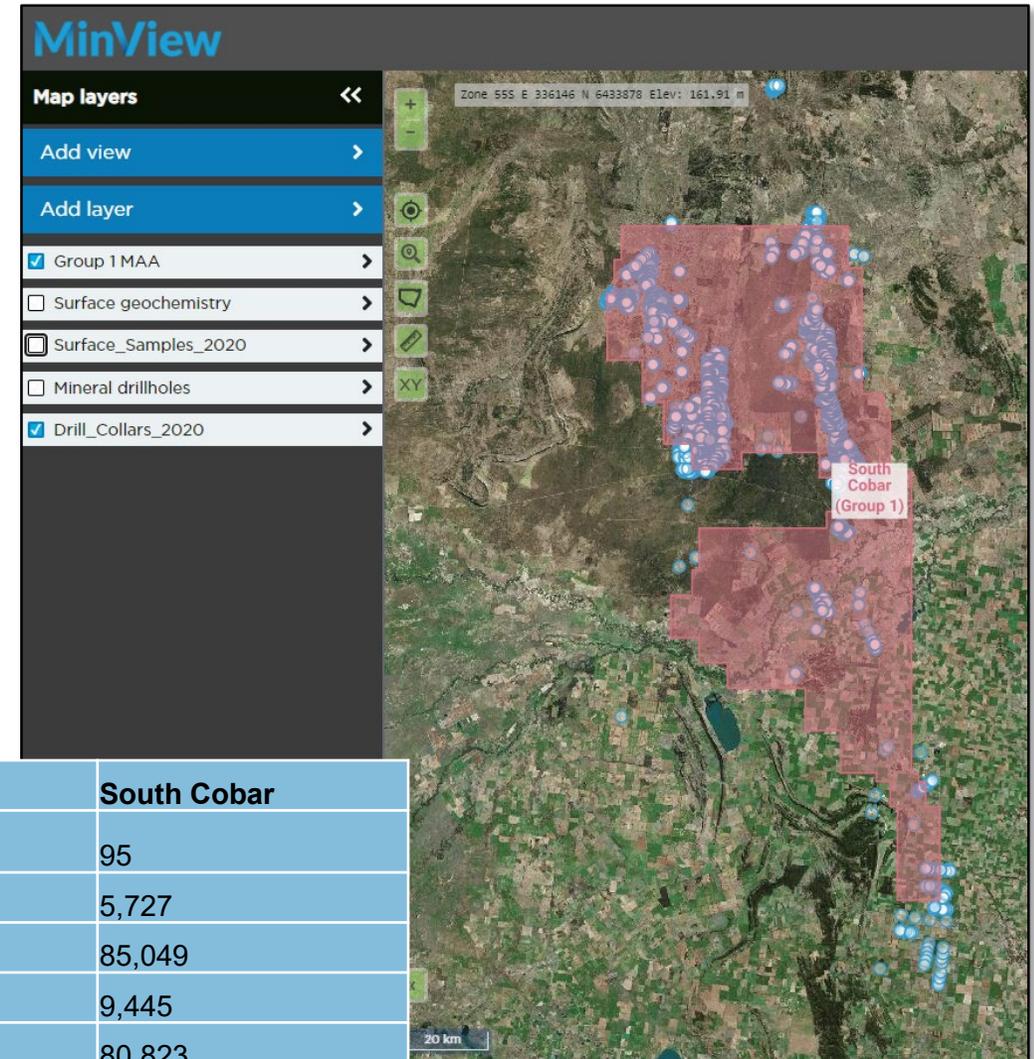
# Exploration data mining results

Target areas:

- North Cobar 150 reports, 43% open file
- South Cobar 200 reports, 100% open file
- Macquarie Arc 16 reports, nil open file

Available:

[minview.geoscience.nsw.gov.au](http://minview.geoscience.nsw.gov.au)



AREA	South Cobar
NO_RPTS	95
NO_HOLES	5,727
NO_DRILL_ASSAYS	85,049
NO_SURF_SAMPLES	9,445
NO_SURF_ASSAYS	80,823

Drillhole collar & downhole geochemistry



# Quarterly Notes

**QN152:** Alteration response to mineralisation in the Cobar mineral district, central Lachlan Orogen, NSW: a HyLogger™ case study

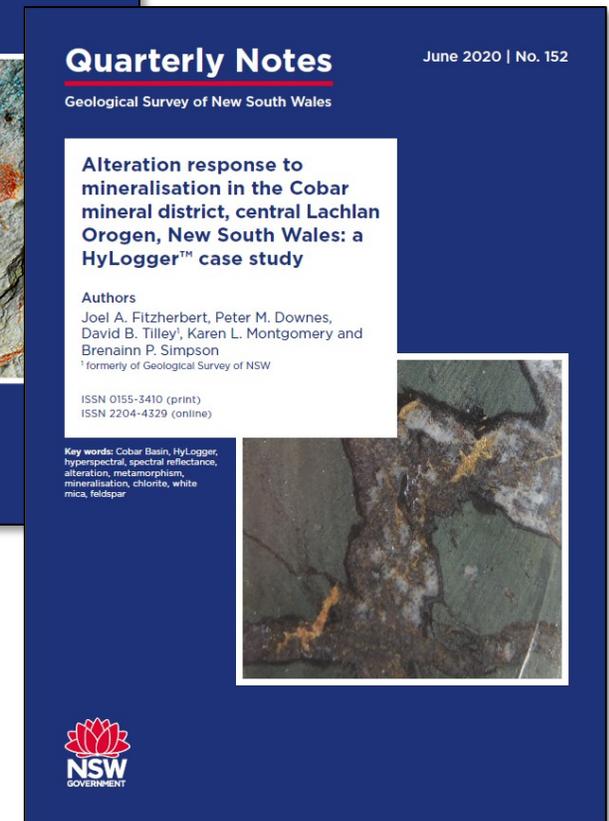
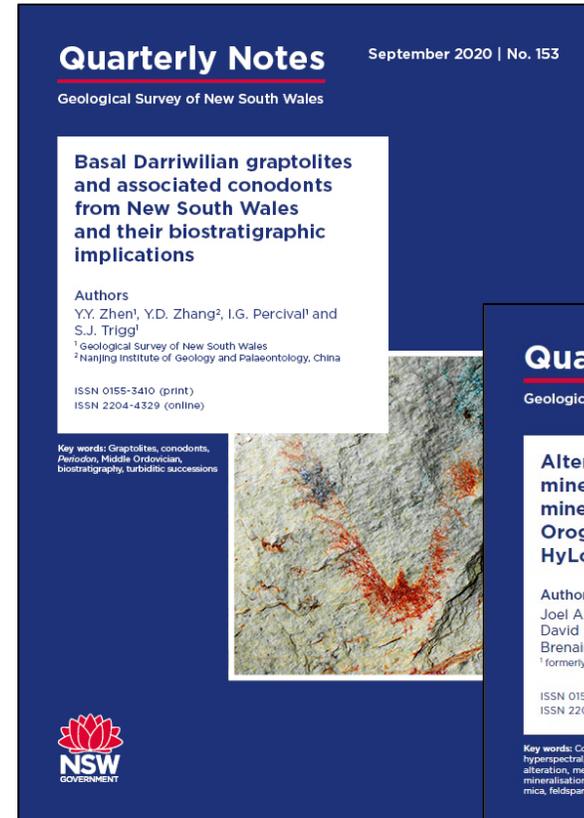
**Available:**

[digs.geoscience.nsw.gov.au/product/9259](https://digs.geoscience.nsw.gov.au/product/9259)

**QN153:** Basal Darrawilian graptolites and associated conodonts from New South Wales and their biostratigraphic implications.

**Available:**

[digs.geoscience.nsw.gov.au/product/9262](https://digs.geoscience.nsw.gov.au/product/9262)



# GS Reports

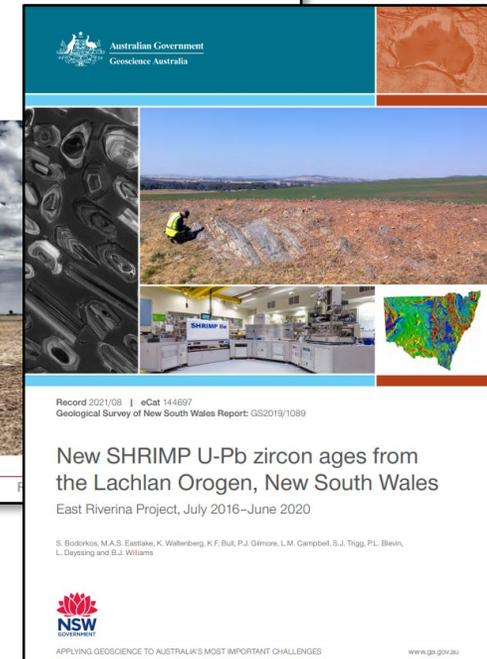
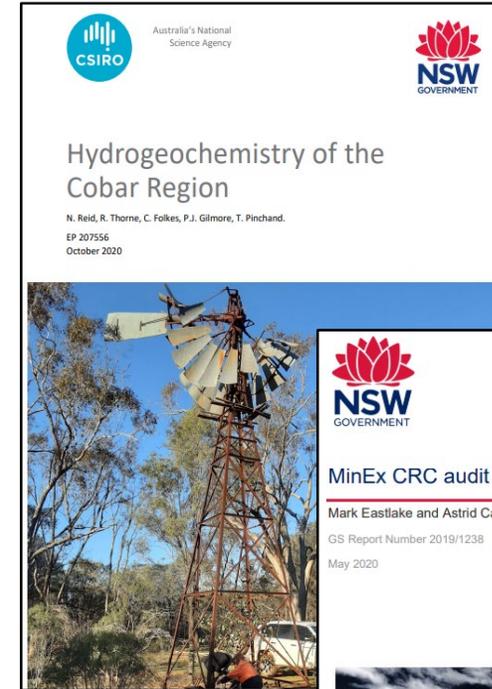
## Hydrogeochemistry of the Cobar Region

[digs.geoscience.nsw.gov.au/report/R00034704](https://digs.geoscience.nsw.gov.au/report/R00034704)

**New SHRIMP U–Pb zircon ages from the Lachlan Orogen, New South Wales: East Riverina Project, July 2016–June 2020.** Record 2021/08, Geoscience Australia, Canberra; Report [GS2019/1089](https://digs.geoscience.nsw.gov.au/report/R00055779)

MinEx CRC audit and gaps reports for study areas

- Dubbo [digs.geoscience.nsw.gov.au/report/R00055780](https://digs.geoscience.nsw.gov.au/report/R00055780)
- Forbes [digs.geoscience.nsw.gov.au/report/R00055771](https://digs.geoscience.nsw.gov.au/report/R00055771)
- Mundi [digs.geoscience.nsw.gov.au/report/R00055770](https://digs.geoscience.nsw.gov.au/report/R00055770)
- South Cobar  
[digs.geoscience.nsw.gov.au/report/R00055778](https://digs.geoscience.nsw.gov.au/report/R00055778)
- North Cobar  
[digs.geoscience.nsw.gov.au/report/R00055779](https://digs.geoscience.nsw.gov.au/report/R00055779)



# Maps

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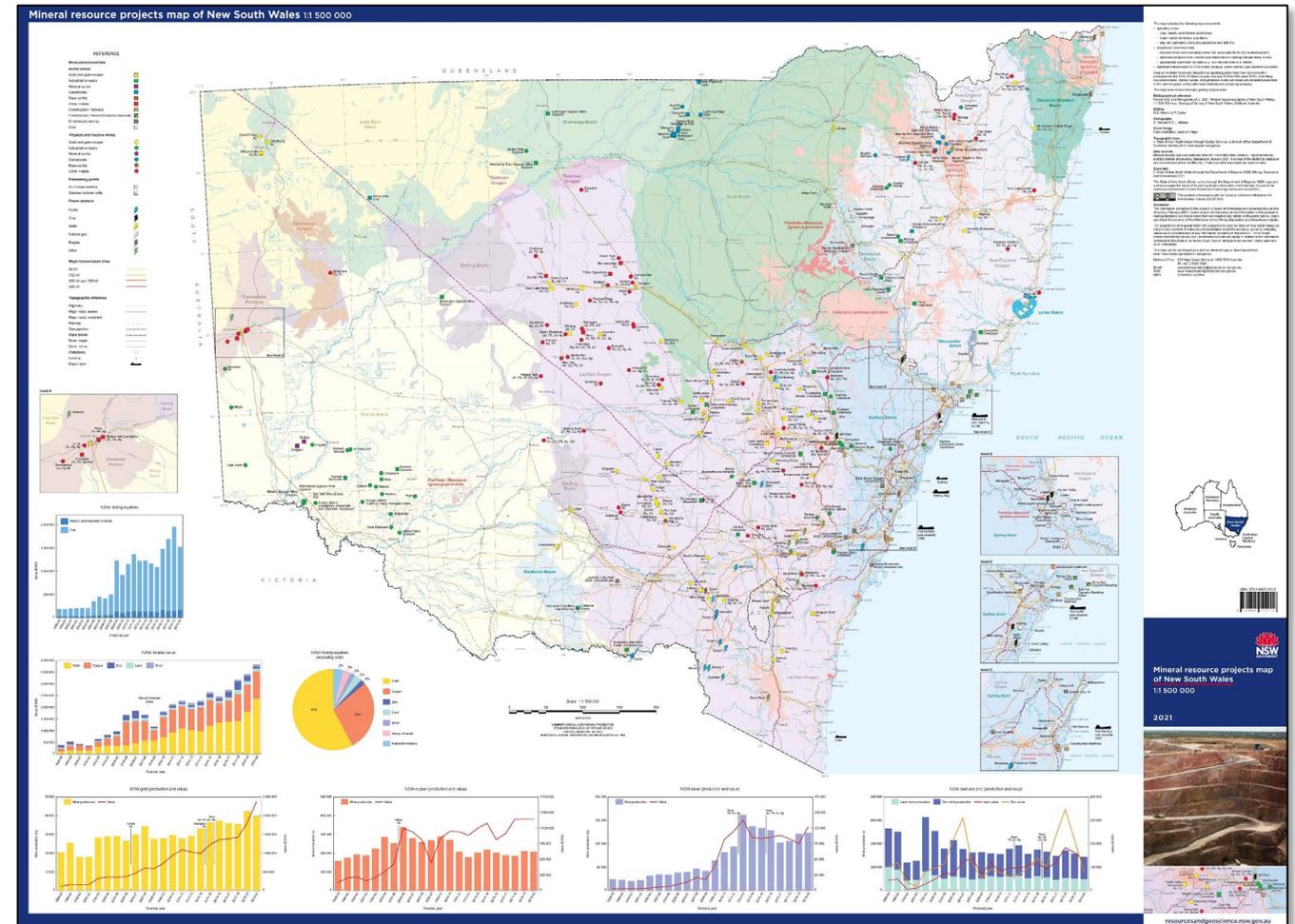
# Mineral resource projects map

2021 edition

- Operating mines
- Major industrial mineral operations
- Opal & gemstone operations & districts
- Projects and inactive mines
- Geologically significant deposits
- 1:1,500,000 and 1:3 million scale

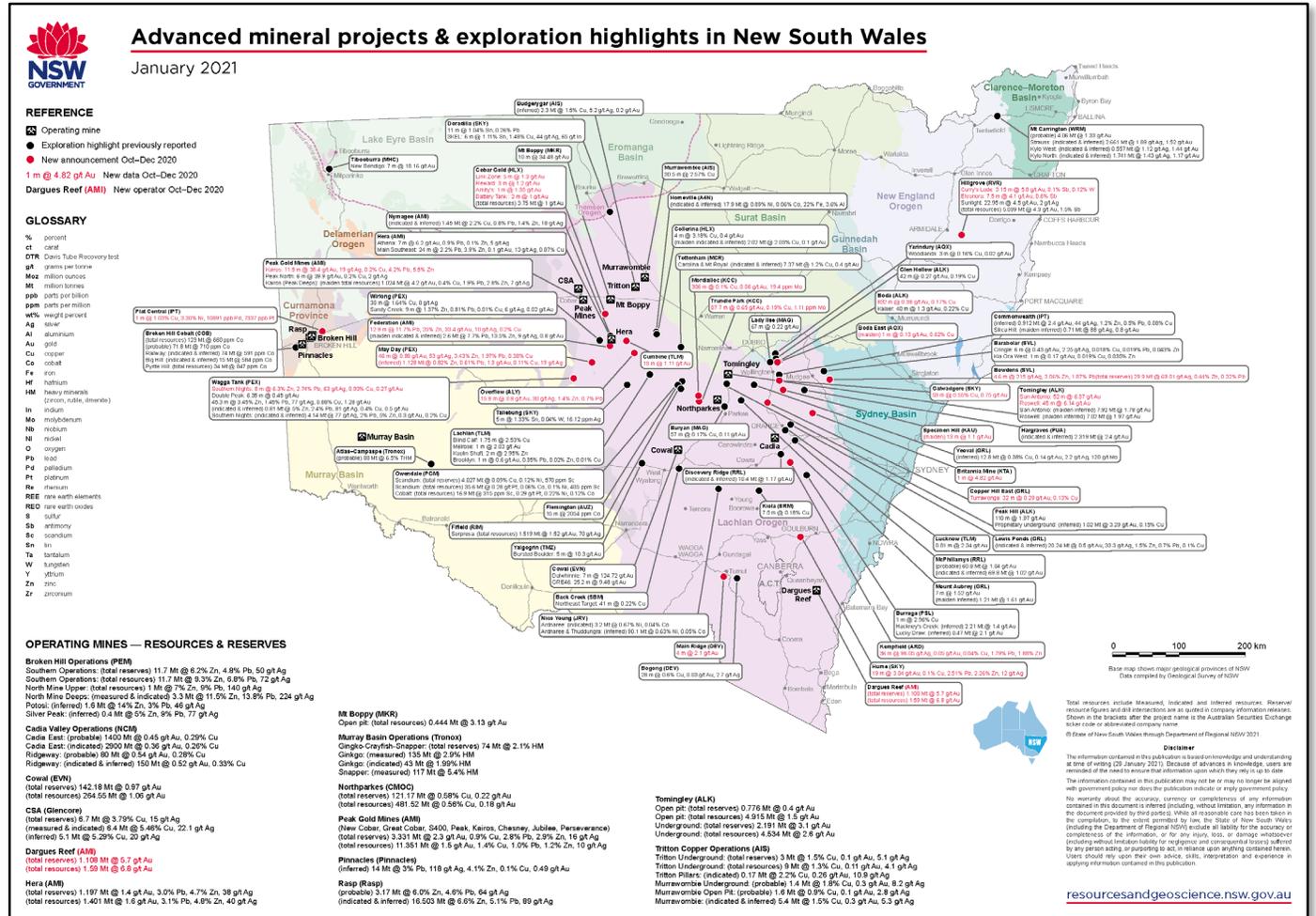
**Available:**

[digs.geoscience.nsw.gov.au/product/9219](https://digs.geoscience.nsw.gov.au/product/9219)



# Advanced mineral projects & exploration highlights

- At a glance, A3 map
- 3 editions per year
- Operating mines
- New announcements Oct-Dec 2020
- Resources & reserves
- Exploration highlights
- New announcements



# Apps

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# XplorPak – online

Available:

- <https://xplorpak.geoscience.nsw.gov.au/>
- updated annually in February
- released at PDAC.



The screenshot shows the XplorPak 2021 website for New South Wales, Australia. At the top left is the NSW Government logo. At the top right is a red banner with 'XplorPak 2021' in white. The main heading is 'New South Wales, Australia'. Below this is a large image of a landscape with a text box containing the following text:

NEW SOUTH WALES, Australia (NSW) has a vibrant minerals industry that includes some of the world's major explorers and producers. Substantial companies such as BHP Billiton, Newcrest, Glencore, South32, Peabody Energy, Yancoal, Alkane and Iluka are complemented by a significant junior exploration industry.

XplorPak provides information on the geology, and mineral and energy resources of NSW, with links and data to help prospective explorers and other stakeholders. It focuses specifically on information for metallic minerals, industrial minerals, geothermal resources, coal and petroleum.

Below the text box are two buttons: 'ABOUT THIS PRODUCT' and 'START XPLORPAK 2021'. At the bottom of the page is a navigation menu with the following items: 'GEOLOGY OVERVIEW', 'RESOURCES OVERVIEW', 'NEW OPPORTUNITIES', 'TOOLS AND MAPS', 'PROJECTS', 'EXPLORATION TO MINING', 'PUBLICATIONS', and 'ABOUT GNSW'. Below the navigation menu is a section titled 'NEW SOUTH WALES INVESTMENT ADVANTAGES' with a list of six bullet points:

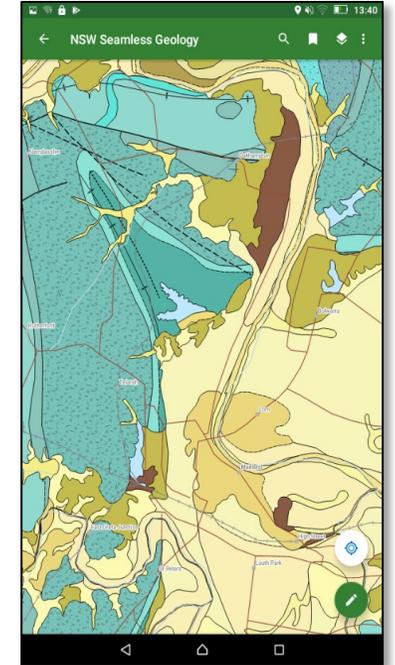
- ✓ World class mines and deposits
- ✓ Discoveries of emerging new geological resources: Fe, REE, Sc, Ni-Co, PGE
- ✓ World class pre-competitive geoscience data
- ✓ Low sovereign risk
- ✓ Excellent infrastructure
- ✓ Skilled workforce
- ✓ High degree of social and environmental responsibility

To the right of the list is a map of Australia with the states and territories labeled: WESTERN AUSTRALIA, NORTHERN TERRITORY, QUEENSLAND, SOUTH AUSTRALIA, NEW SOUTH WALES, and VICTORIA. The map is colored in shades of red and purple.

# Mobile seamless geology – Explorer for ArcGIS



- Download offline maps
- Map interactivity
- Layer control/map legends
- User's position on map is GPS located
- Navigate to a feature using 'Compass Mode'
- Bookmark locations
- Measure distance/area
- Mark-up maps with points/lines/polygons
- Directions using Google Maps/Apple Maps (iOS version only)

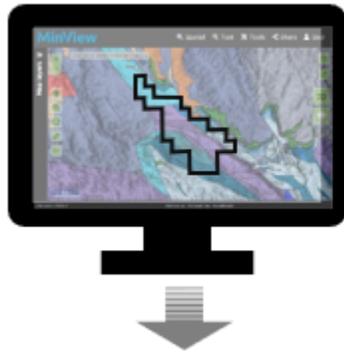




# MinView – stratigraphic information tools

## 1. Create a report

Select stratigraphic units:  
Based on area selection, query or filter  
*e.g. resource title area*



Choose to create a report to  
compile stratigraphic  
information  
Print or save



## 2. Dynamically view

Dynamically interact with and  
select, query or filter stratigraphic  
units

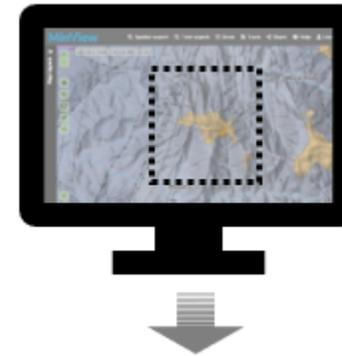


Choose to dynamically view  
stratigraphic information  
online



## 3. Download data

Select stratigraphic units:  
Based on area selection, query or filter  
*e.g. user-specified area*



Choose to download  
stratigraphic information in  
various formats  
*e.g. CSV*



# MinView – stratigraphic rock unit reports

**MinView**

Spatial search | Text search | Draw | Tools | Share | Help | User login

**Map layers**

- Add view
- Add layer
- Locations
- Roads
- Rivers
- SRTM hillsha
- Geology
- Cenozoic sedimentary province geology
- Cenozoic igneous province geology
- Great Australian Basin geology
- Permian-Mesozoic igneous province geology
- Permo-Triassic basins geology
- Western Devonian basins geology
- New England Orogen geology
- Thomson Orogen geology
- Lachlan Orogen geology
- Delamerian Orogen geology

Remove all

Version: 21.3.18-dev

**Stratigraphic unit**

**Pshw** Wandrawandian Formation **1.** **Print**

**Parent unit**  
Shoalhaven Group

**Constituent units**  
None

**Description**  
Mid-grey to blue-grey fine-grained quartz-lithic silty sandstone, mudstone, siltstone (fine specks mica present); matrix-supported polymictic pebbles within sequence. Commonly bioturbated, fossils include: brachiopods, corals and crinoid stems.

**Medial age**  
Guadalupian

**Stratigraphic unit characteristics**

**Lithology**  
Unknown

**Distinguishing or identifying features**  
Grey, micaceous, bioturbated sandy siltstone and silty sandstone. Similarities exist between the finer-grained facies of the Snapper Point Formation (grey-coloured, silty and micaceous) and the Wandrawandian Formation. However, in Moss Vale this facies of the Snapper Point Formation is typically interbedded with quartzose sandstone, is laminated and cross-bedded locally, and commonly contains well-preserved ichnofauna, all of which contrasts with the Wandrawandian Formation. Although not stratigraphically juxtaposed, rocks of the Wandrawandian Formation are similar to those of the Berry Siltstone, including the presence of outsized clasts. However, in Moss Vale the Berry Siltstone is more extensively bioturbated, contains fewer outsized clasts, and has laterally extensive quartzose sandstone horizons that are generally lacking in the Wandrawandian Formation.

**Type section / locality / area**  
The type area is ascribed by McElroy and Rose (1962, p. 23) to David and Stonier (1891), who noted strong outcrop on the Nowra to Milton road, where it crosses the Wandrawandian Creek. A maximum thickness of 168 m of 'Wandrawandian pebbly sandstones' (David & Stonier 1891, p. 250) was

Select an area

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# MinView – stratigraphic rock unit reports

**MinView**

Map layers

- Add view
- Add layer
- Locations
- Roads
- Rivers
- SRTM hillshade
- Geology
- Cenozoic sedimentary province geology
- Cenozoic igneous province geology
- Great Australian Basin geology
- Permian-Mesozoic igneous province geology
- Permo-Triassic basins geology
- Western Devonian basins geology
- New England Orogen geology
- Thomson Orogen geology
- Lachlan Orogen geology
- Delamerian Orogen geology

Remove all

Version: 21.3.18-dev

Spatial search Text search Draw Tools Share Help

**Stratigraphic unit**

**1.** Pshw Wandrawandian Formation

Parent unit: Shoalhaven Group

Constituent units: None

**Description**  
Mid-grey to blue-grey fine-grained quartz-lithic silty sandstone, mudstone, siltstone (fine specks mica present); matrix-supported polymictic pebbles within sequence. Commonly bioturbated, fossils include: brachiopods, corals and crinoid stems.

**Medial age**  
Guadalupian

**Stratigraphic unit characteristics**

**Lithology**  
Unknown

**Distinguishing or identifying features**  
Grey, micaceous, bioturbated sandy siltstone and silty sandstone. Similarities exist between the finer-grained facies of the Snapper Point Formation (grey-coloured, silty and micaceous) and the Wandrawandian Formation. However, in Moss Vale this facies of the Snapper Point Formation is typically interbedded with quartzose sandstone, is laminated and cross-bedded locally, and commonly contains well-preserved ichnofauna, all of which contrasts with the Wandrawandian Formation. Although not stratigraphically juxtaposed, rocks of the Wandrawandian Formation are similar to those of the Berry Siltstone, including the presence of outsized clasts. However, in Moss Vale the Berry Siltstone is more extensively bioturbated, contains fewer outsized clasts, and has laterally extensive quartzose sandstone horizons that are generally lacking in the Wandrawandian Formation.

**Type section / locality / area**  
The type area is ascribed by McElroy and Rose (1962, p. 23) to David and Stonier (1891), who noted strong outcrop on the Nowra to Milton road, where it crosses the Wandrawandian Creek. A maximum thickness of 168 m of 'Wandrawandian pebbly sandstones' (David & Stonier 1891, p. 250) was

**Stratigraphic rock unit** **2.**

Wandrawandian Formation (Pshw)  
Joplin et al. (1952) and Briggs (1998)

**Table of contents**

- [Rock unit characteristics](#)
- [Nomenclature](#)
- [Physical properties](#)
- [Geophysical characteristics](#)
- [References](#)

**Description**  
Mid-grey to blue-grey fine-grained quartz-lithic silty sandstone, mudstone, siltstone (fine specks mica present); matrix-supported polymictic pebbles within sequence. Commonly bioturbated, fossils include: brachiopods, corals and crinoid stems.

**Medial age**  
Guadalupian [005.006.001.011.008.000.004.000.004.]

**Constituent units**  
None [from GSL\_STRAT\_TEXT]

**Stratigraphic unit characteristics**

**Lithology**

**Stratigraphic correlation**  
The Wandrawandian Formation of the southern Sydney Basin and the Branxton Formation (Maitland Group) of the Hunter Valley in the northern Sydney Basin are continuous in the sub-surface Sydney Basin. Mayne et al. (1974 Figure 3, Plates 2 and 3) illustrated a petroleum exploration well correlation interpretation for these two units north-south across the basin, based primarily on stratigraphic position. The transgressive phase during which the Wandrawandian Formation was deposited is represented elsewhere in the Sydney-Gunnedah-Bowen Basin by the Branxton, Porcupine, Barfield, Ingelara and Maria formations and possibly the Moah Creek Beds (Fielding et al. 2001).

**Distinguishing or identifying features**  
Grey, micaceous, bioturbated sandy siltstone and silty sandstone. Similarities exist between the finer-grained facies of the Snapper Point Formation (grey-coloured, silty and micaceous) and the Wandrawandian Formation. However, in Moss Vale this facies of the Snapper Point Formation is typically interbedded with quartzose sandstone, is laminated and cross-bedded locally, and commonly contains well-preserved ichnofauna, all of which contrasts with the Wandrawandian Formation. Although not stratigraphically juxtaposed, rocks of the Wandrawandian Formation are similar to those of the Berry Siltstone, including the presence of outsized clasts. However, in Moss Vale the Berry Siltstone is more extensively bioturbated, contains fewer outsized clasts, and has laterally extensive quartzose sandstone horizons that are generally lacking in the Wandrawandian Formation.



# To stay informed

- Subscribe to MEG Newsletter
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- Follow Department of Regional NSW  
#regionalsw #gsnsw



The screenshot shows the top portion of a newsletter. In the top left is the NSW Government logo. In the top right, the text "Mining, Exploration and Geoscience" is displayed. Below this is a navigation bar with three buttons: "Subscribe Here", "Issue 10.2020", and "View Previous Editions". Underneath the navigation bar is the section title "Feature story" followed by a horizontal line. Below the line is a photograph of two workers in white hard hats and orange safety vests looking at a tablet together.



# Trisha Moriarty

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