



# ASX ANNOUNCEMENT

## STRONG EM CONDUCTORS IDENTIFIED AT MOUNT VERNON Ni-Cu-PGE PROJECT

- Ground EM survey identifies more strong conductors at Mount Vernon
- Bangemall Projects share regional, project and target-scale similarities to Norilsk

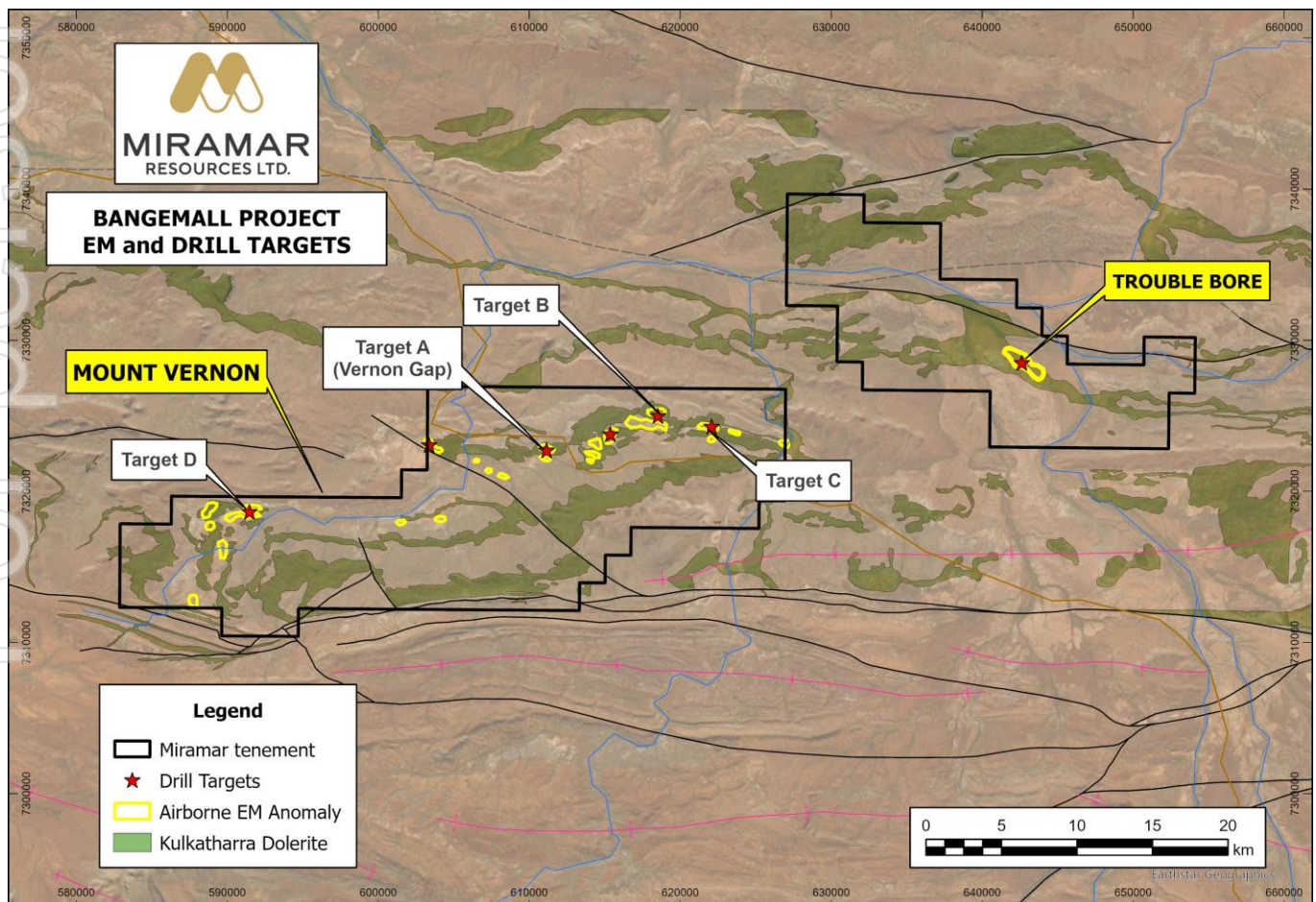
Miramar Resources Limited (ASX:M2R, "Miramar" or "the Company") is pleased to advise that ground electromagnetic (EM) surveys have identified additional conductors at the Company's large 100%-owned Mount Vernon Project in the Gascoyne region of Western Australia.

Miramar is exploring for intrusion-hosted nickel, copper and platinum group element (Ni-Cu-PGE) mineralisation related to 1070Ma aged Kulkatharra Dolerite sills, part of the Warakurna Large Igneous Province and the same age as the large Nebo-Babel Ni-Cu deposits in the West Musgraves.

Miramar's Executive Chairman, Mr Allan Kelly, said the Company was excited about the potential district-scale opportunity at Bangemall and looked forward to progressing towards a maiden drilling campaign.

*"At Mount Vernon and Trouble Bore, we are seeing all the ingredients needed for the formation of a large-scale mafic intrusion hosted Ni-Cu-PGE deposit such as Nova or Nebo-Babel," he said.*

*"These types of deposits can be large and very valuable due to the mix of metals present which makes them mostly immune to short-term fluctuations in the nickel price," he added.*



**Figure 1. Mount Vernon and Trouble Bore Projects showing airborne and ground EM anomalies.**





## Mount Vernon – Target C

Geophysical surveying contractor, Wireline Services Group, has now completed the Fixed Loop EM (FLTEM) survey over Target C, within the Mount Vernon Project, which shows a strong late-time EM anomaly where two dolerite sills are crosscut by several northeast trending faults (Figure 2).

Modelling of the data (Figure 3) indicates:

- a large, strongly conductive (~1600S), shallow (<100m) plate dipping towards the SSE; and
- a poorly-defined secondary anomaly located north of the main response

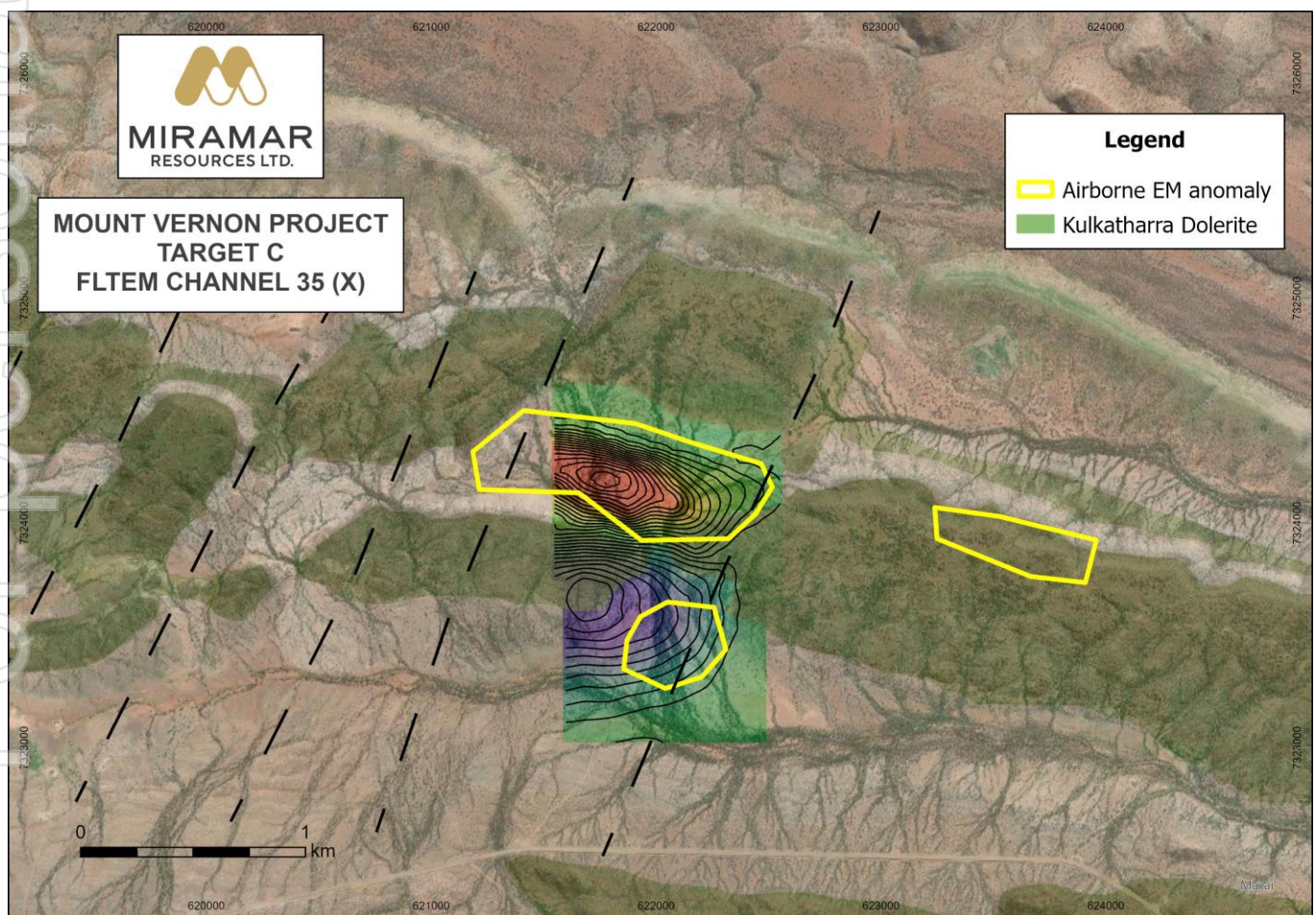
The Target C anomaly is covered by recent sediments and is the strongest EM conductor seen at Mount Vernon to date.

There is no previous drilling or geochemical sampling in the vicinity of this target.

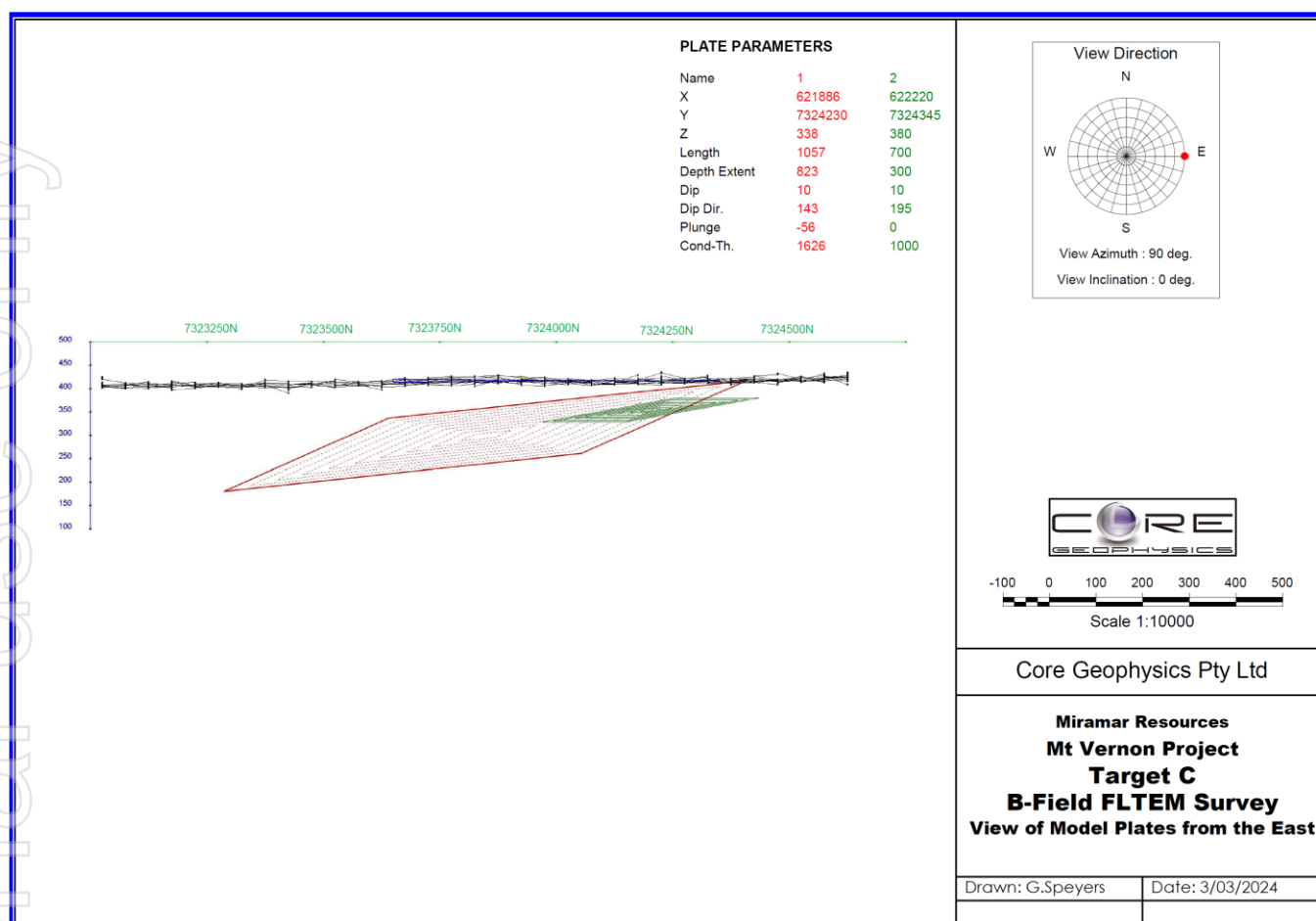
The geophysical crew have now moved to Target D, the final airborne EM anomaly to be tested as part of this initial programme.

Following completion of the EM survey, Miramar plans to conduct systematic rock chip sampling and mapping at Mount Vernon, including field checking of the various airborne and ground EM anomalies.

Following this, the Company will plan for the maiden drill programme at Mount Vernon and Trouble Bore.



**Figure 2.** Target C FLTEM anomaly (X component Channel 35, contour interval 20 Siemens).



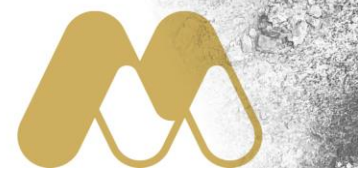
**Figure 3.** Cross section of Target C modelled EM conductors.

### Upcoming work programme

Miramar's initial aim is to show "proof of concept" of the Company's Bangemall Ni-Cu-PGE deposit model by confirming the presence of Ni-Cu sulphide mineralisation.

Upcoming work includes:

- Program of Work application for drilling at Trouble Bore - submitted
- Exploration Incentive Scheme (EIS) Application - submitted
- Completion of ground EM surveys at Mount Vernon and Trouble Bore
- Systematic rock chip sampling of outcropping Kulkatharra Dolerite – March/April 2024
- RC drill testing – mid 2024
- Progressing other existing tenement applications to grant - ongoing
- Identifying other prospective areas to peg and/or acquire - ongoing
- Discussions with potential Joint Venture partners - ongoing



For more information on Miramar Resources Limited, visit the Company's website at [www.miramarresources.com.au](http://www.miramarresources.com.au), follow the Company on social media (Twitter @MiramarRes and LinkedIn @Miramar Resources Ltd) or contact:

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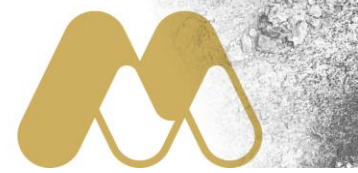
This announcement has been authorised for release by Mr Allan Kelly, Executive Chairman, on behalf of the Board of Miramar Resources Limited.

**References**

Barnes, S.J., Cruden, A.R., Arndt, N. and Saumur, B. 2015, The mineral system approach applied to magmatic Ni-Cu-PGE sulphide deposits. Ore Geology Reviews 76(94).

Morris, P. A., and Pirajno, F., 2005, Mesoproterozoic Sill Complexes of the Bangemall Supergroup in Western Australia: Geology, Geochemistry and Mineralisation Potential. GSWA Report 99.





## APPENDIX

### The Bangemall Project and the Norilsk Ni-Cu-PGE model

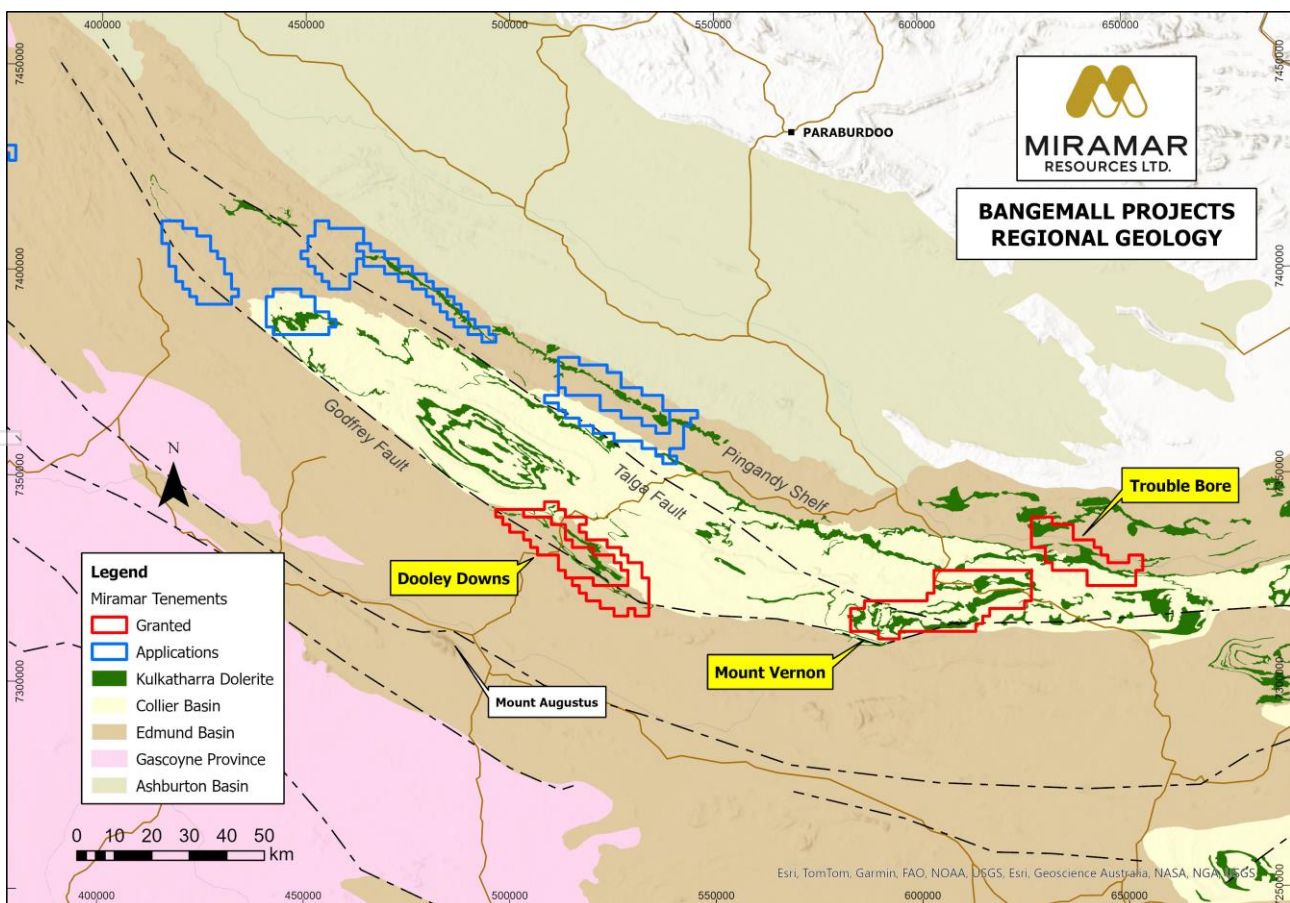
Miramar's 100%-owned Bangemall Project comprises granted Exploration Licences and Applications covering approximately 2,190 km<sup>2</sup> within the Gascoyne region of Western Australia (Figure A).

The Proterozoic Edmund and Collier Basins have been intruded by numerous 1070Ma aged Kulkatharra Dolerite sills, part of the Warakurna Large Igneous Province, and the same age as the Giles Complex which hosts the large Nebo and Babel Ni-Cu deposits in the West Musgraves.

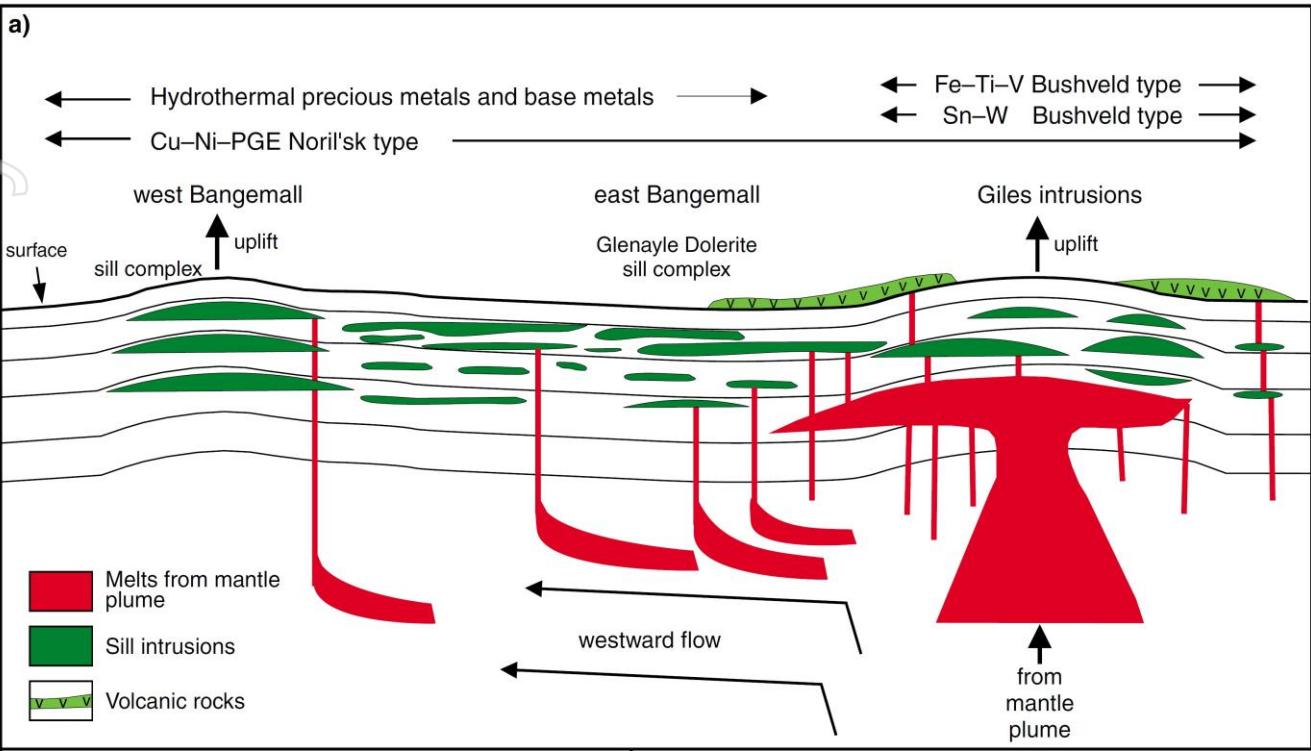
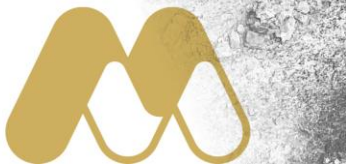
The region has been identified by both the Geological Survey of Western Australia and Geoscience Australia as having high prospectivity for Ni-Cu-PGE mineralisation associated with the Kulkatharra Dolerite sills, similar to the giant Norilsk-Talnakh Ni-Cu-PGE deposits in Russia (Figure B).

Since 2020, Miramar has built a strategic land position in the Bangemall region, focussing on areas containing key ingredients and/or regional-scale indicators for Proterozoic Ni-Cu-PGE mineralisation:

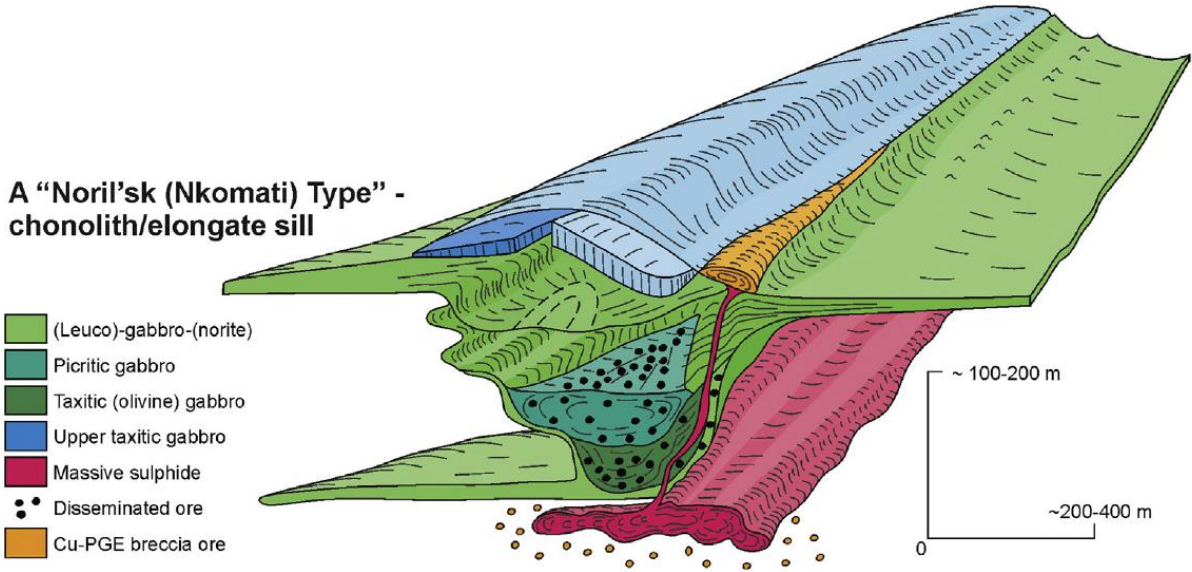
- Kulkatharra Dolerite sills – source of Ni, Cu +/- PGE's
- Proximity to major crustal-scale faults - potential plumbing systems
- Cross faults - traps
- Sulphidic sediments - potential sulphur source
- Regional-scale geochemical anomalism (GSWA regional geochemistry)
- Regional-scale EM anomalism (2013 Capricorn AEM Survey)



**Figure A.** Bangemall Projects showing Kulkatharra Dolerite sills and major crustal-scale faults.



**Figure B.** Schematic long section of the Warakurna Large Igneous Province showing mafic rocks and potential mineralisation styles (Morris and Pirajno, 2005).



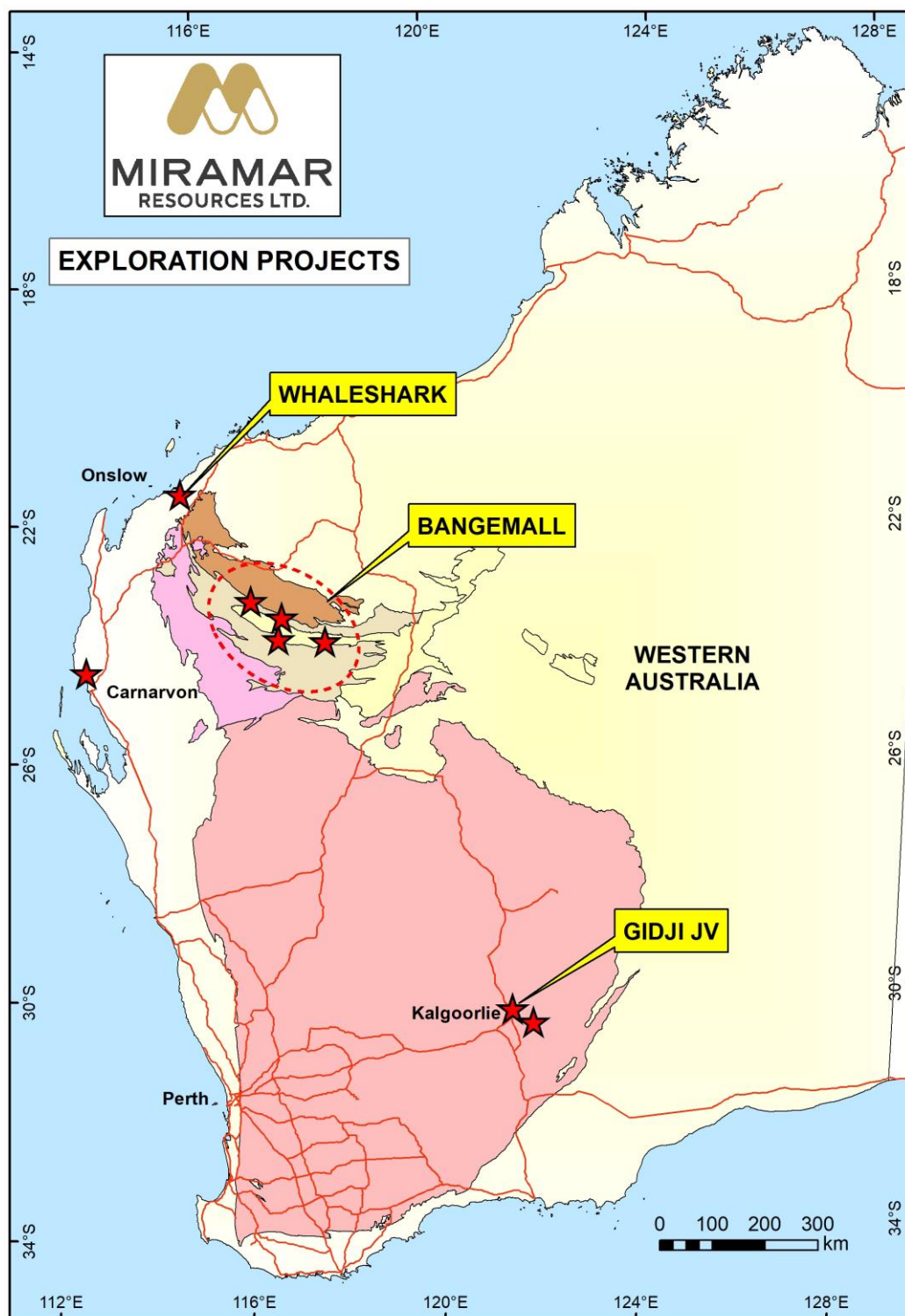
**Figure C.** Schematic diagram of a Norilsk-type chonolith (Barnes et al 2015)).



## About Miramar Resources Limited

Miramar Resources Limited is an active, WA-focused mineral exploration company exploring for gold, copper and Ni-Cu-PGE deposits in the Eastern Goldfields and Gascoyne regions of WA.

Miramar's Board has a track record of discovery, development and production within Australia, Africa, and North America, and aims to create shareholder value through discovery of high-quality mineral deposits.







## COMPETENT PERSON STATEMENT

The information in this report that relates to Exploration Results is based on information compiled by Allan Kelly, a “Competent Person” who is a Member of The Australian Institute of Geoscientists. Mr Kelly is the Executive Chairman of Miramar Resources Ltd. He is a full-time employee of Miramar Resources Ltd and holds shares and options in the company.

Mr Kelly has sufficient experience that is relevant to the style of mineralisation and type of deposits under consideration and to the activity being undertaken to Qualify as a “Competent Person” as defined in the 2012 Edition of the ‘Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves’.

Mr Kelly consents to the inclusion in this Announcement of the matters based on his information and in the form and context in which it appears.

Historical exploration results for the Bangemall Project, including JORC Table 1 and 2 information, is included in the Miramar Prospectus dated 4 September 2020.

JORC Table 1 and 2 information for recent exploration results within the Bangemall Project is contained in the following ASX Announcements:

- 22 February 2024 – *“Bangemall Ni-Cu-PGE Exploration Update”*
- 13 February 2024 – *“Multiple EM Conductors Outlined at Mount Vernon”*
- 8 February 2024, *“Multiple Large Uranium Targets in Bangemall”*
- 5 February 2024 – *“Bangemall Exploration Update”*
- 15 January 2024 – *“Ground EM Survey Underway at Mount Vernon”*
- 2 January 2024 – *“Tenement Grant Expands Bangemall Project”*
- 24 July 2023 – *“Approval Received for Mount Vernon Drilling”*
- 17 July 2023 – *“Gascoyne Projects Update”*
- 21 June 2023 – *Gascoyne Projects Funded Following Capital Raising”*
- 25 May 2023 – *“High-Priority Ni-Cu-PGE Targets Identified at Mt Vernon”*
- 14 March 2023 – *“Gascoyne Plans Finalised Following Capital Raising”*
- 9 March 2023 – *“Gascoyne Region Exploration Update”*
- 17 January 2023 – *“Multiple Large REE Targets Identified at Dooley Downs”*
- *“14 November 2022 – “Large REE Targets Identified at Dooley Downs”*
- 3 October 2022 – *“Diamond occurrence & uranium targets identified at Bangemall”*
- 12 June 2022 – *“New Ni-Cu-PGE targets identified at Bangemall”*
- 3 February 2022 – *“Multiple Large EM Anomalies Identified at Mt Vernon”*
- 25 January 2022 – *“EM Survey Commenced at Bangemall Ni-Cu-PGE Target”*
- 1 September 2021 – *“Multiple EM Conductors Identified within Bangemall Project”*