ASX ANNOUNCEMENT

MIRAMAR RESOURCES LTD.

TENEMENT GRANT EXPANDS BANGEMALL Ni-Cu-PGE PROJECT

- **New Exploration Licence granted adjacent to Mount Vernon Project**
- **Historic EM data highlights multiple anomalies and potential feeder dykes**
- **Ground EM and RC drilling planned for high-priority Mount Vernon targets**

Miramar Resources Limited (ASX:M2R, "Miramar" or "the Company") is pleased to advise that it has expanded its 100%-owned Bangemall Project in the Gascoyne Region of WA with the recent grant of Exploration Licence E52/4301, adjacent to the high-priority Mount Vernon Ni-Cu-PGE Project (Figure 1).

Miramar has a substantial landholding in the Bangemall region and believes there is potential for nickel (Ni), copper (Cu) and platinum group element (PGE) mineralisation related to Kulkatharra Dolerite sills, part of the Warakurna Large Igenous Province and the same age as the Nebo and Babel Ni-Cu deposits.

The new "Trouble Bore" Project contains a number of these dolerite sills, and potential feeder dykes, intruding into sediments of the Collier Basin but has never been effectively explored for Ni-Cu-PGE's.

Miramar's Executive Chairman, Mr Allan Kelly, said the Company was aiming to show "proof of concept" at Bangemall through the discovery of Ni-Cu-PGE sulphides, either in outcrop and/or through drilling.

"If we are successful at Mount Vernon, it opens up the entire Bangemall region as a new nickel province, one in which we have built a commanding land position," he said.

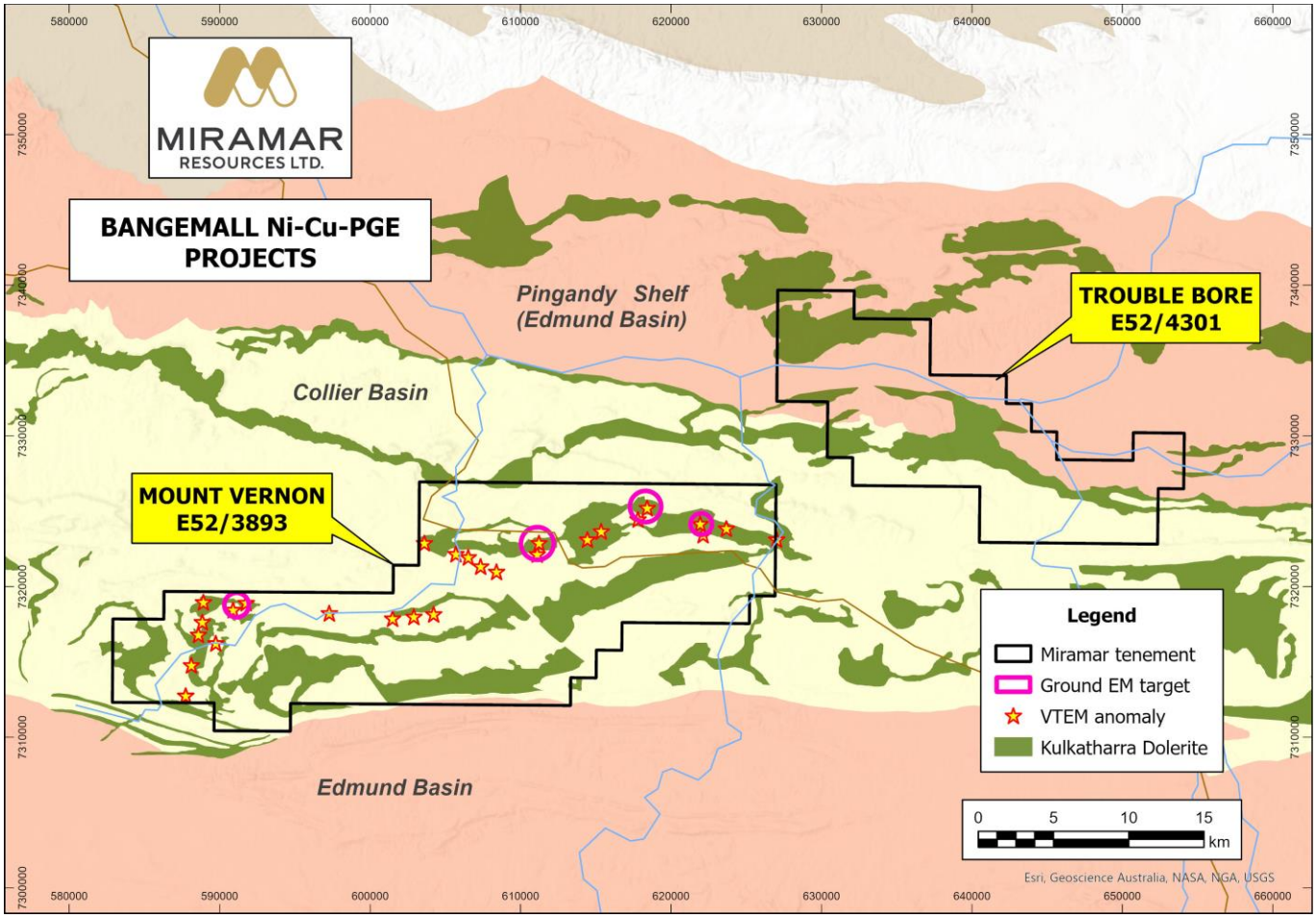


Figure 1. *Exploration Licence E52/4301 ("Trouble Bore") in relation to Mount Vernon.*

Trouble Bore

Exploration Licence E52/4301 ("Trouble Bore") is located mostly within the Collier Basin and straddles the contact with the older Edmund Basin sediments within the Pingandy Shelf (Figure 1).

Across the southern two thirds of the tenement, the local geology is dominated by Kulkatharra Dolerite sills which intrude into sediments of the Collier Basin (Figure 2). The northwestern portion of the tenement is underlain by sediments of the Edmund Basin, also intruded by a dolerite sill.

Previous exploration is limited and sporadic and focussed mainly on exploration for sediment-hosted copper, lead and zinc during the 1990's and early 2000's. More recent exploration since 2009 focussed on the search for channel iron deposits (CID) by Rio Tinto Exploration in the period 2012-2014.

Rio Tinto flew a SkyTEM electromagnetic survey in 2013, with N-S survey lines and a relatively broad line spacing of 1000m, and subsequently drilled three RC holes within the area now covered by E52/4301.

The RC drilling failed to intersect CID mineralisation and Rio Tinto subsequently surrendered the tenements (WAMEX reports a100526, a104395 and a106023).

The SkyTEM data highlights EM anomalies coincident with the EW-trending sub-horizontal dolerite sills as well as two N-S trending anomalies which may represent sub-vertical feeder dykes linking the sills.

Feeder dykes are an important component of the "plumbing systems" associated with Ni-Cu-PGE deposits, as shown in Figure 3.

There is minimal reported surface geochemical data across the Project.

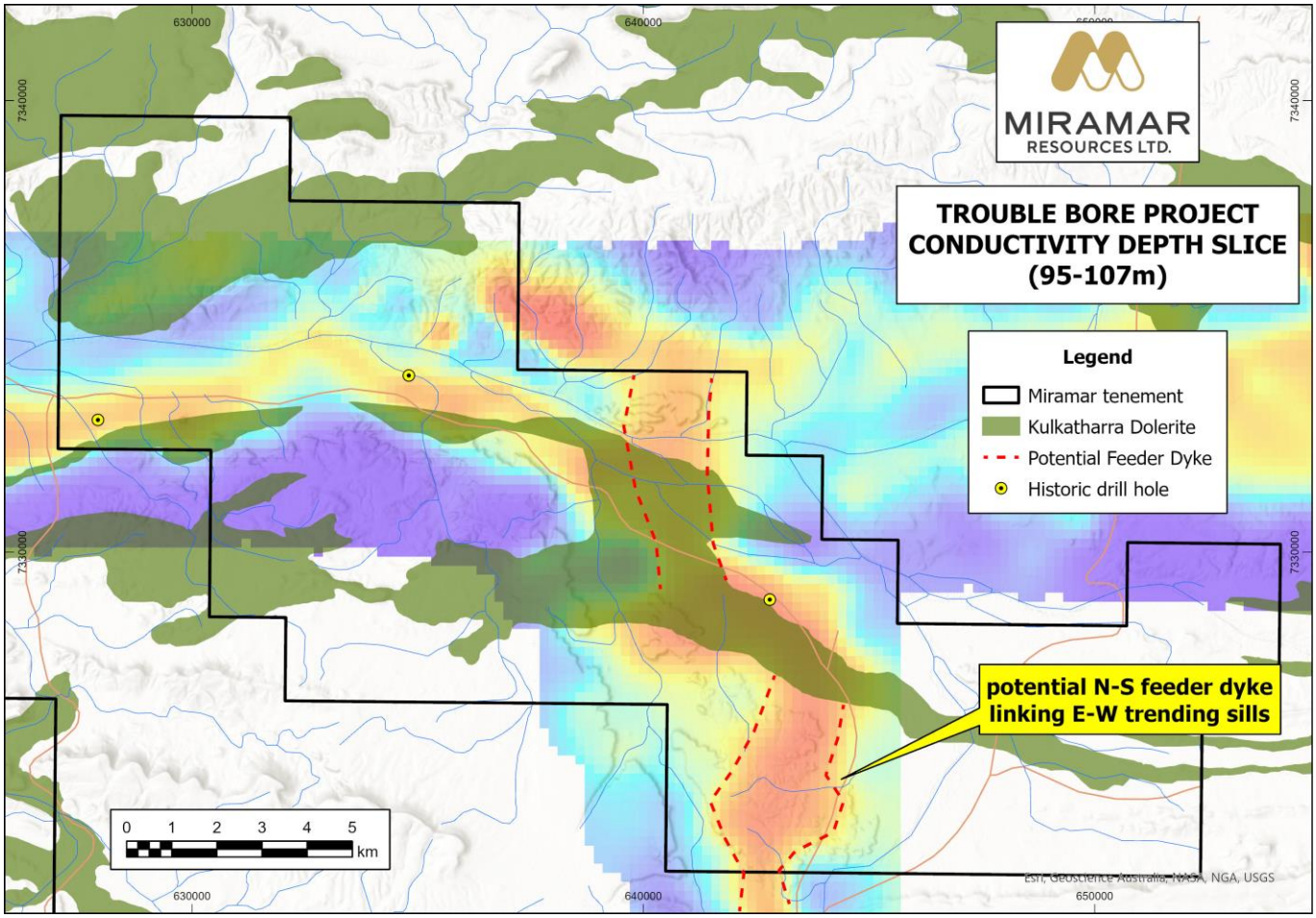


Figure 2. *Conductivity depth slice (95-107m) for Trouble Bore showing potential N-S trending sub-vertical feeder dykes in relation to E-W trending sub-horizontal dolerite sills.*

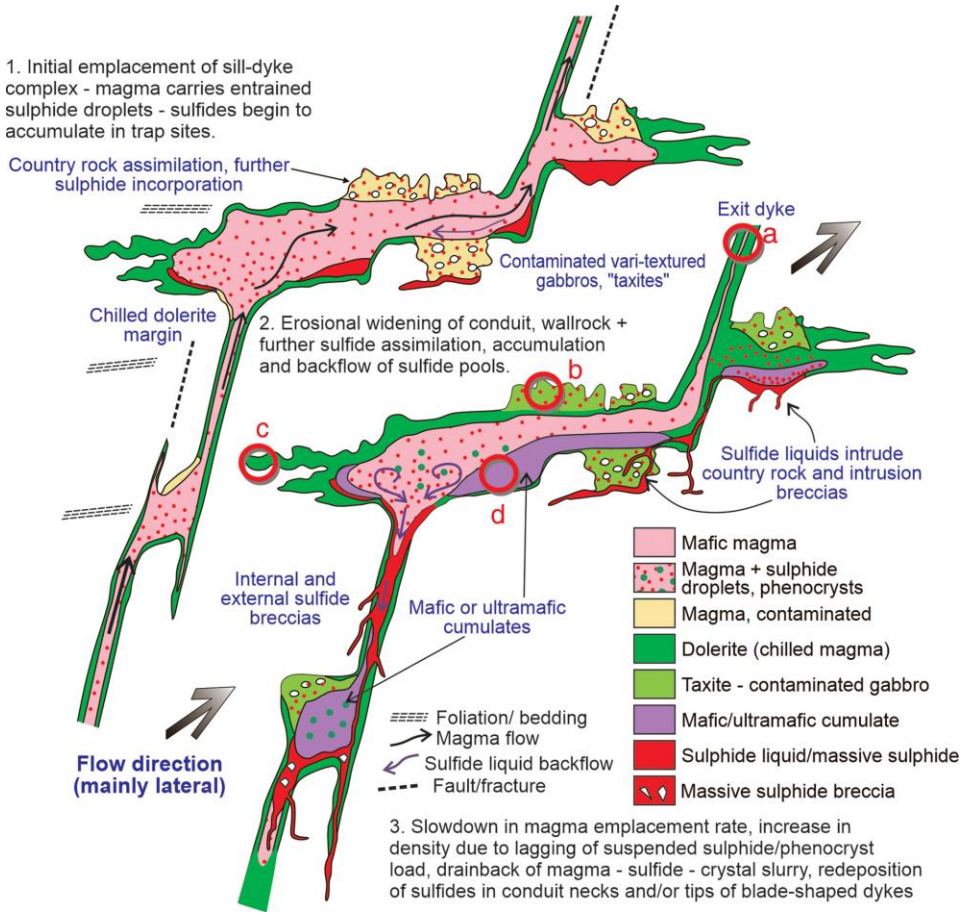


Figure 3. *Schematic cross-sectional diagram showing development of an intrusion-related Ni-Cu-Co (PGE) sulphide deposit and the spatial relationship between sills and feeder dykes (Barnes, 2023)*

Mount Vernon

At Mount Vernon, Miramar field crews recently observed features consistent with the model including:

- Variation in textures from fine-grained chill margins to coarse gabbro in the centre of the sill; and
- Coarse-grained pyrite confirming the mafic magma carries sulphides (Figure 4)

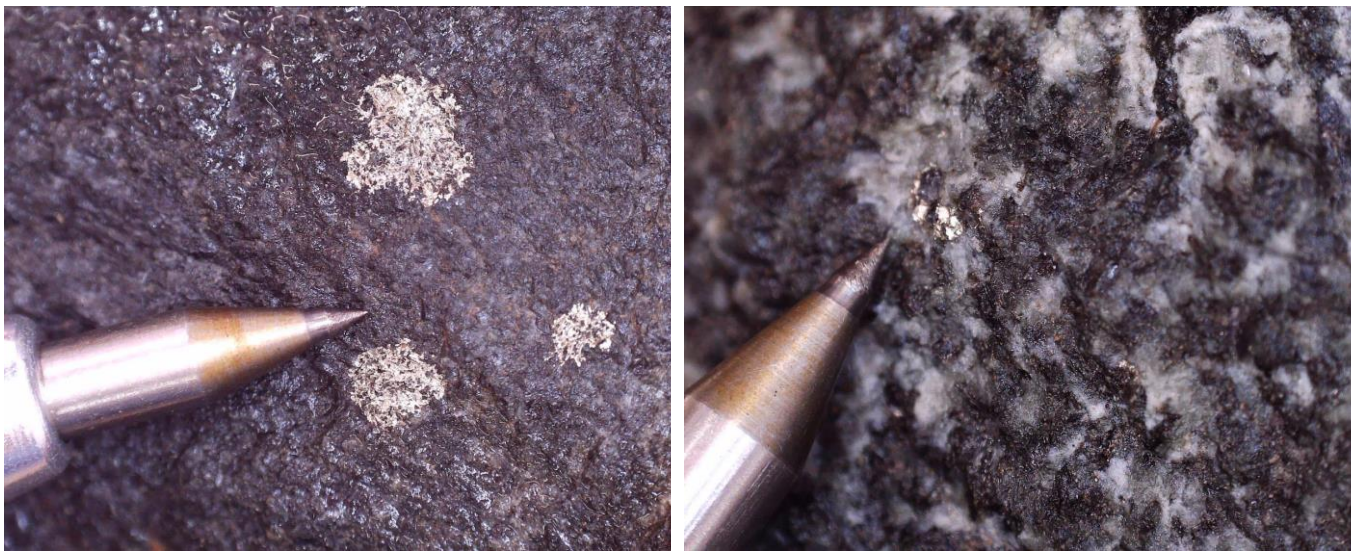


Figure 4. *Coarse pyrite in fine-grained chill margin (left) and coarser-grained dolerite/gabbro (right).*

Upcoming work

Miramar's aim for the Bangemall Projects during 2024 is to show "proof of concept" of the Company's deposit model by identifying Ni-Cu-PGE sulphide mineralisation, either in outcrop or through drilling.

Proposed work includes:

- Completion of fixed loop electromagnetic (FLEM) surveys over selected high-priority VTEM anomalies at Mount Vernon, followed by modelling and RC drill testing
- Ground checking and sampling of SkyTEM anomalies at Trouble Bore
- Progressing other tenement applications to grant and
- Identifying other prospective areas to peg and/or acquire

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

Allan Kelly
Executive Chairman
info@miramarresources.com.au

Margie Livingston
Ignite Communications
margie@ignitecommunications.com.au

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

Reference:

Barnes, S. J. 2023. "Lithogeochemistry in exploration for intrusion-hosted magmatic Ni–Cu–Co deposits", Geochemistry: Exploration, Environment, Analysis Volume 23.

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:

- *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"*

About the Bangemall Project

Miramar's 100% owned Bangemall Project comprises several granted Exploration Licences and Applications covering approximately 2,190 km^2 within the Proterozoic Edmund and Collier Basins in the Gascoyne region of Western Australia.

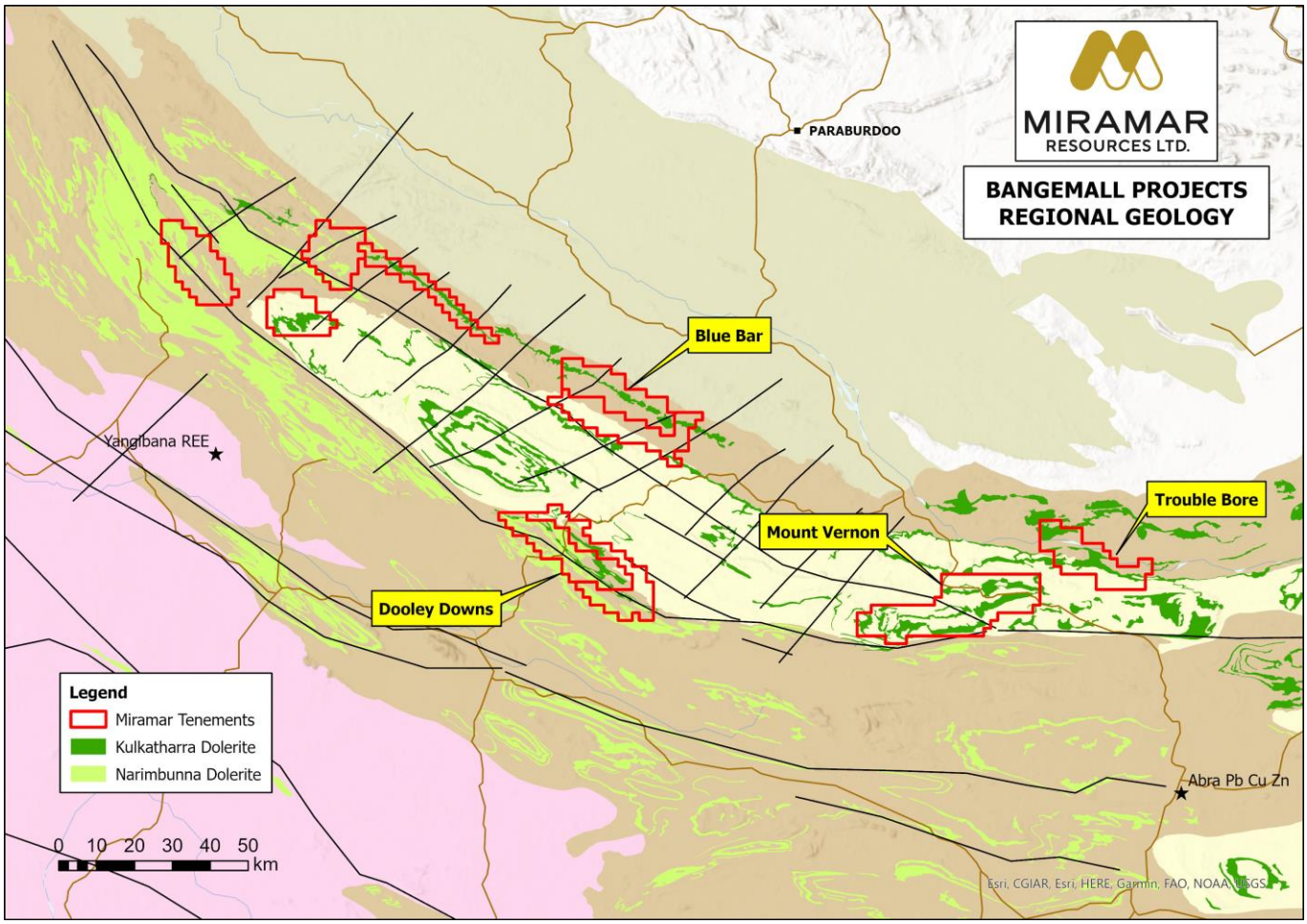
The two basins have been intruded by 1070Ma-aged Kulkatharra Dolerite sills, part of the Warakurna Large Igneous Province, and the same age as the Giles Complex which hosts the large Nebo and Babel N-Cu deposits in the West Musgraves.

The region has previously 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, and similar to the giant Norilsk-Talnakh Ni-Cu-PGE deposits in Russia.

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

- 1070Ma Kulkatharra Dolerite sills – source of Ni, Cu and PGE's
- Proximity to major crustal-scale faults (+/- cross faults) - potential plumbing systems and/or traps
- Sulphidic sediments - providing a potential sulphur source
- Regional-scale geochemical anomalism (GSWA regional geochemistry)
- Regional-scale EM anomalism (Capricorn AEM Survey)

At the Mount Vernon Project, Miramar has identified multiple late-time VTEM anomalies associated with strongly elevated Ni, Cu and PGE results in historic rock chip samples and is planning to conduct more detailed ground EM surveys during 2024 with the aim of defining targets for drill testing.



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.