

HIGH PRIORITY Ni-Cu-PGE TARGETS IDENTIFIED AT MOUNT VERNON

- **Potentially mineralised basal contact identified over 26km of strike**
- **Strongly elevated Ni-Cu-PGE in rock chips and large Ni-Cu-PGE soil anomalies**
- **Multiple late-time EM anomalies untested by previous drilling or sampling**
- **Reconnaissance field trip and sampling planned for June**

Miramar Resources Limited (ASX:M2R, “Miramar” or “the Company”) is pleased to advise that it has identified several high priority nickel (Ni), copper (Cu) and platinum group element (PGE) targets at the Company’s 100%-owned Mount Vernon Project, in the Gascoyne region of Western Australia.

Miramar’s Executive Chairman, Mr Allan Kelly, said that historic sampling results, when combined with the recent EM survey, indicated potential for significant Ni-Cu-PGE sulphide mineralisation at Mt Vernon.

“The Kulkatharra Dolerite sills present at Mount Vernon are the same age as the Giles Complex which hosts the large Nebo and Babel nickel-copper deposits in the West Musgraves,” he said.

“There are multiple significant historic nickel, copper and PGE rock chip and soil results over a significant strike length along the base of one of these dolerite sills and a number of late-time EM anomalies that could be related to nickel sulphide mineralisation,” he added.

Mount Vernon Ni-Cu-PGE targets

The Mount Vernon Project is characterised by a series of Kulkatharra Dolerite sills intruding sediments of the Collier Basin, including pyritic siltstones within the Ilgarari Formation (Figure 1).

Numerous dolerite dykes of the later Mundine Well Suite, equivalent to the “Money Intrusion” which hosts Ni-Cu-PGE mineralisation at the “Mangaroon” Prospect, crosscut the older geology.

Previous exploration was mostly focussed on sediment-hosted Cu-Pb-Zn mineralisation however a series of Ni, Cu +/- PGE anomalies were outlined from reconnaissance soil traverses, and rock chip sampling returned several strongly elevated Ni and Cu results over several kilometres of strike at the basal contact of a dolerite sill where it intrudes the sulphidic sedimentary package (Figure 2 and Table 1).

RC drilling in 1997 targeted Cu-Pb-Zn but also intersected Ni, Cu and PGE anomalism in the dolerite sills.

A significant portion of the 26 kilometre long basal contact has never been sampled or drilled.

Miramar flew a detailed magnetic and electromagnetic (EM) survey over the Project in early 2022 which identified multiple late-time anomalies which could be related to Ni-Cu-PGE sulphide mineralisation.

Significantly, despite the presence of multiple apparently similar dolerite sills, the late-time EM anomalism was only observed over the northernmost of these sills, implying there is something different about this unit (Figure 1). This sill also has the highest historic rock chip and soil results.

Late-time EM anomalies are seen on Flight Lines 1700 and 1710, adjacent to the highest historic rock chip results and inboard of the outcropping contact between the dolerite sill and underlying sulphidic sediments. These anomalies may represent an accumulation of Ni-Cu-PGE sulphides at the base of the shallow south-dipping dolerite (Figure 3).

None of the previous soil or rock chip sampling, or the RC drilling, tested these EM anomalies.

The Company is planning a reconnaissance field trip during June, pending field activities at the Whaleshark IOCG Project.

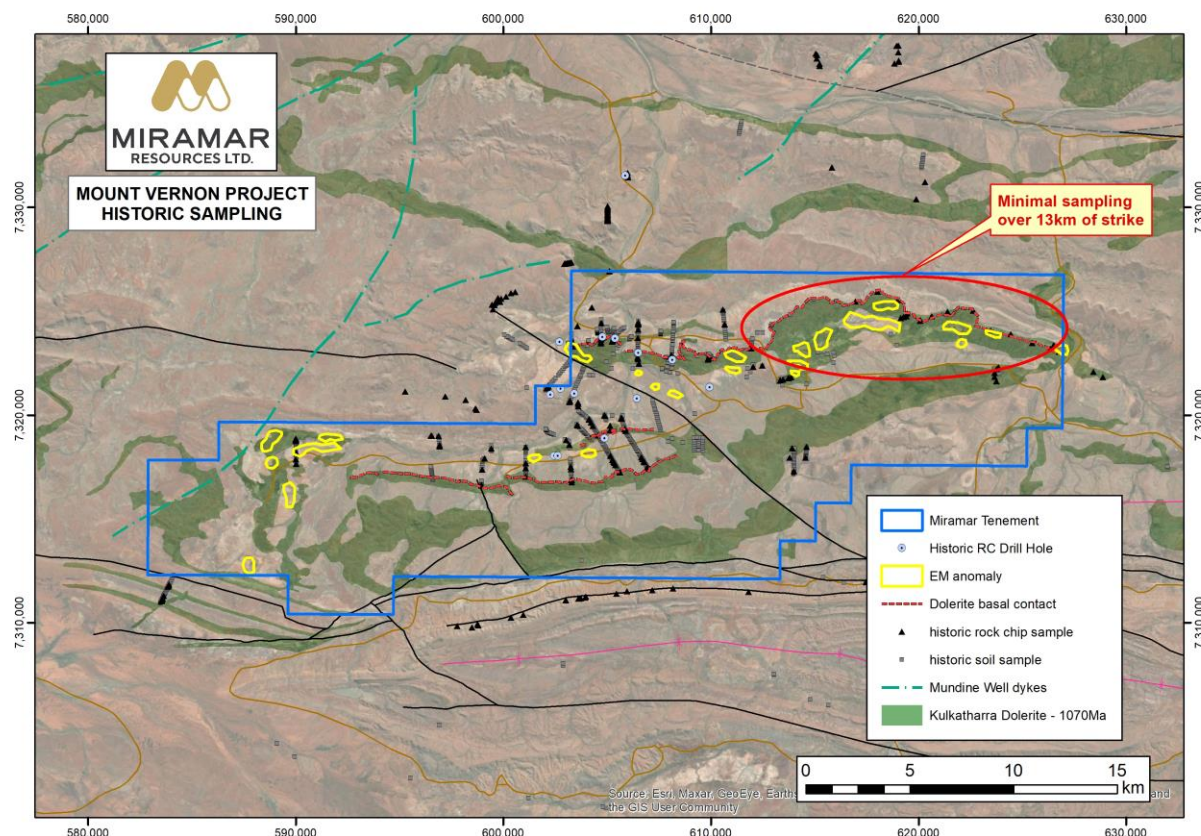


Figure 1. Mount Vernon Project showing Kulkatharra Dolerite sills in relation to EM anomalies.

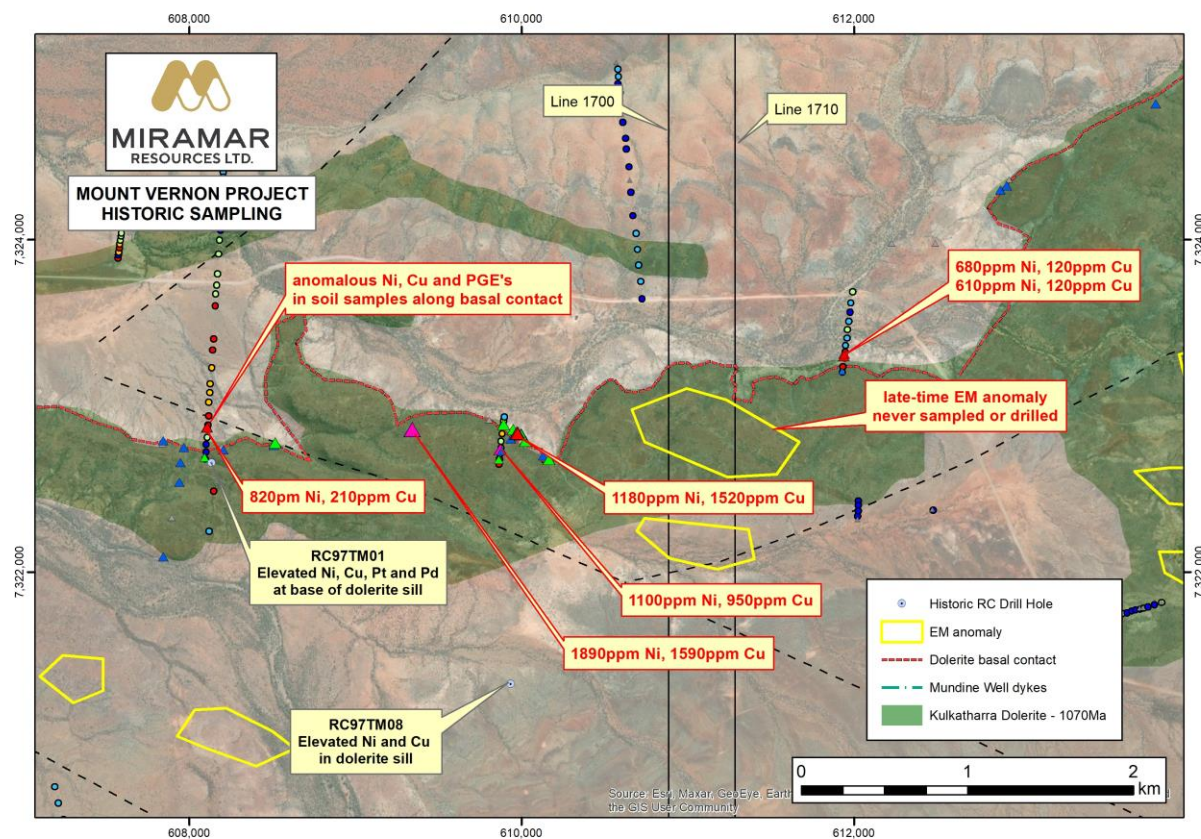


Figure 2. Eastern part of Mount Vernon Project showing historic soil and rock chip results.



Table 1. Selected historic rock chip samples from Mt Vernon

Source	Sample No	Ni ppm	Cu ppm	Co ppm	Pd ppb	Pt ppb
Rio Tinto (a054200)	4121685	1100	950	450	5	5
	4121675	680	120		5	5
	4121680	610	120		2	2
IGO (a102509)	A267867	942	674	195	5	5
	A267868	1180	1520	860	10	10
	A267869	386	150		5	5
	A267870	1890	1590	520	5	5
	A267871	510	716	445	15	5
	A267872	56	194		20	5
	A267873	376	486		25	5
	A267874	164	190		20	5
	A267875	304	438		10	5

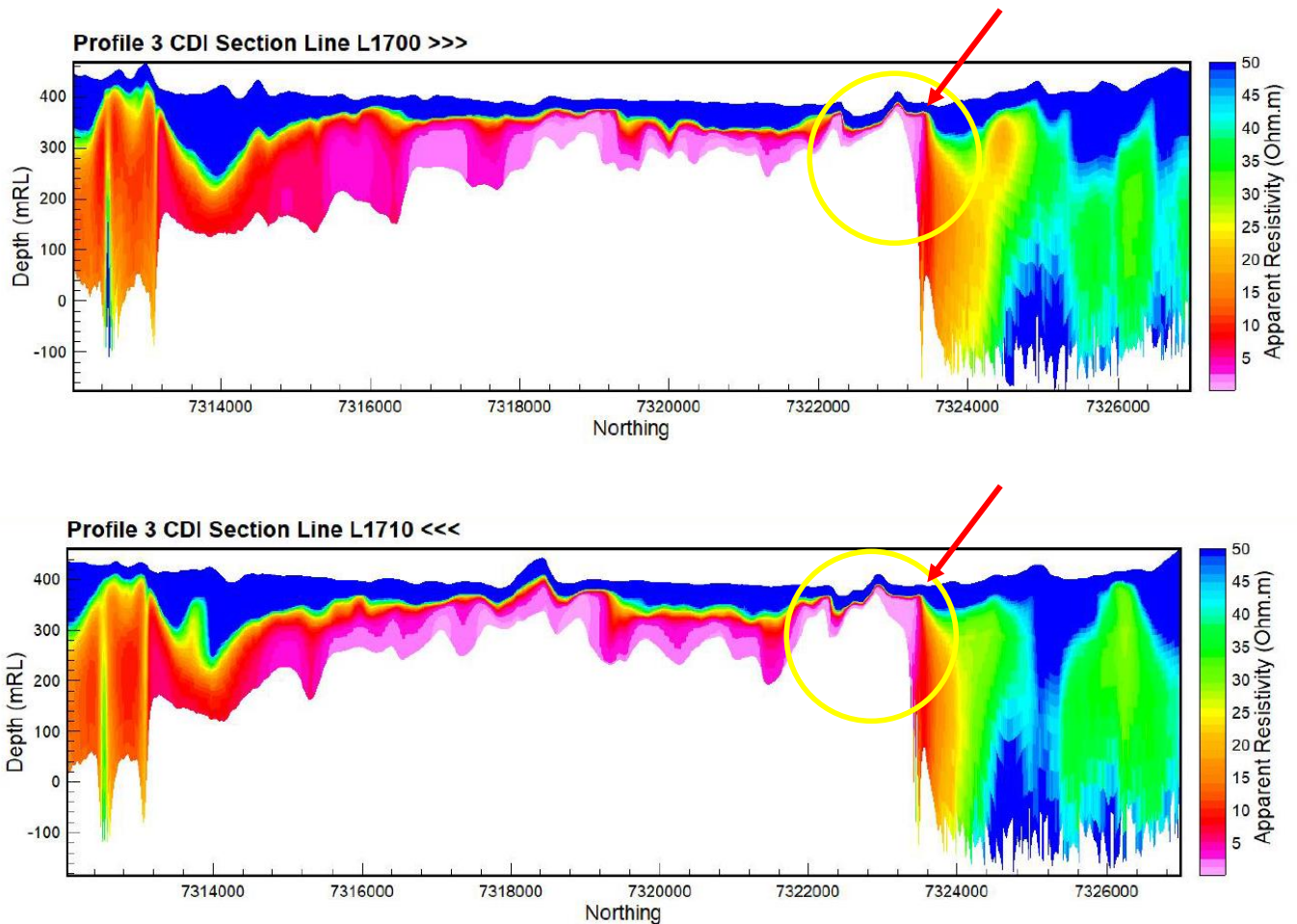
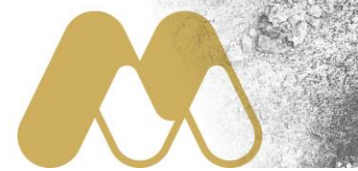


Figure 3. Conductivity-depth images (CDI) for flight lines 1700 and 1710 (400m apart) showing late-time EM conductors (circled) south of the outcropping dolerite basal contact (marked with red arrow).



The Bangemall Ni-Cu-PGE model

Miramar identified the potential for Ni-Cu-PGE mineralisation within the Bangemall region due to the presence of numerous dolerite sills which intrude into sediments of the Edmund and Collier Basins.

The area is considered by the Geological Survey of Western Australia and Geoscience Australia as having high prospectivity for tholeiitic Ni-Cu-PGE mineralisation, as shown in Report 2016/01 (Figure 4).

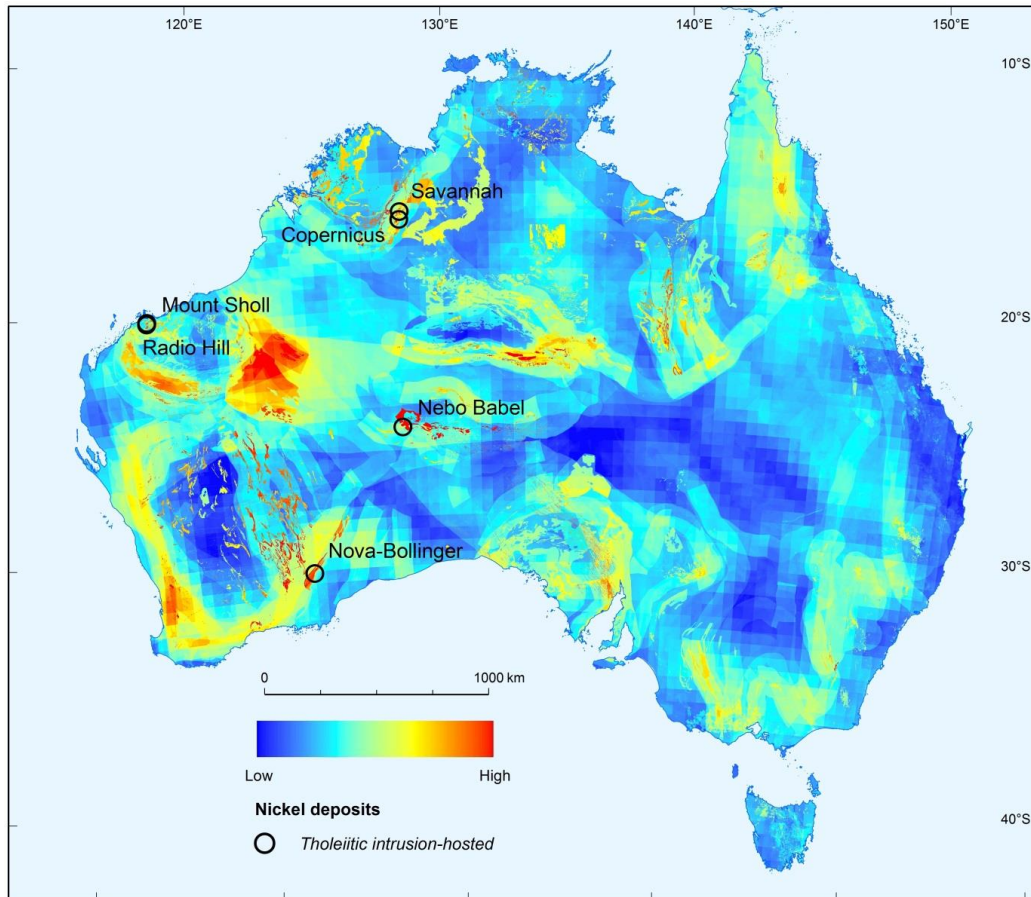


Figure 4. Potential for tholeiitic intrusion-hosted Ni-Cu-PGE sulphide deposits in Australia with known deposits shown. (Geoscience Australia Report 2016/01).

In the above Report, Geoscience Australia highlighted the Bangemall region as having “moderate to high potential” for the presence of intrusion-hosted Ni-Cu-PGE mineralisation as follows:

- The geological units of moderate to high potential include the Kulkatharra Dolerite within the Warakurna LIP present as sills within the Edmund and Collier basins.
- Units with high potential in this area largely reflect the presence of the Warakurna LIP magmatism in the region (medium to high favourability for sources of energy component), and the presence of identified crustal breaks (medium favourability in the lithospheric architecture component).
- As for other areas with volcanic units highlighted with moderate or high potential, it is the co-magmatic intrusive complexes (i.e. the dykes and/or sills) rather than the volcanics that should be targeted for tholeiitic intrusion-hosted Ni-Cu-PGE sulphide mineralisation.

The 1070Ma aged Kulkatharra Dolerite sills are part of the “Warakurna Large Igneous Province” (LIP), a widespread intrusive event which occurred across Western and Central Australia in the late Mesoproterozoic as a result of a mantle plume (Figure 5).

The Kulkatharra Dolerite sills seen in the Bangemall region are similar in age to the Giles Complex, which hosts the large Nebo and Babel Ni-Cu deposits within the West Musgraves.

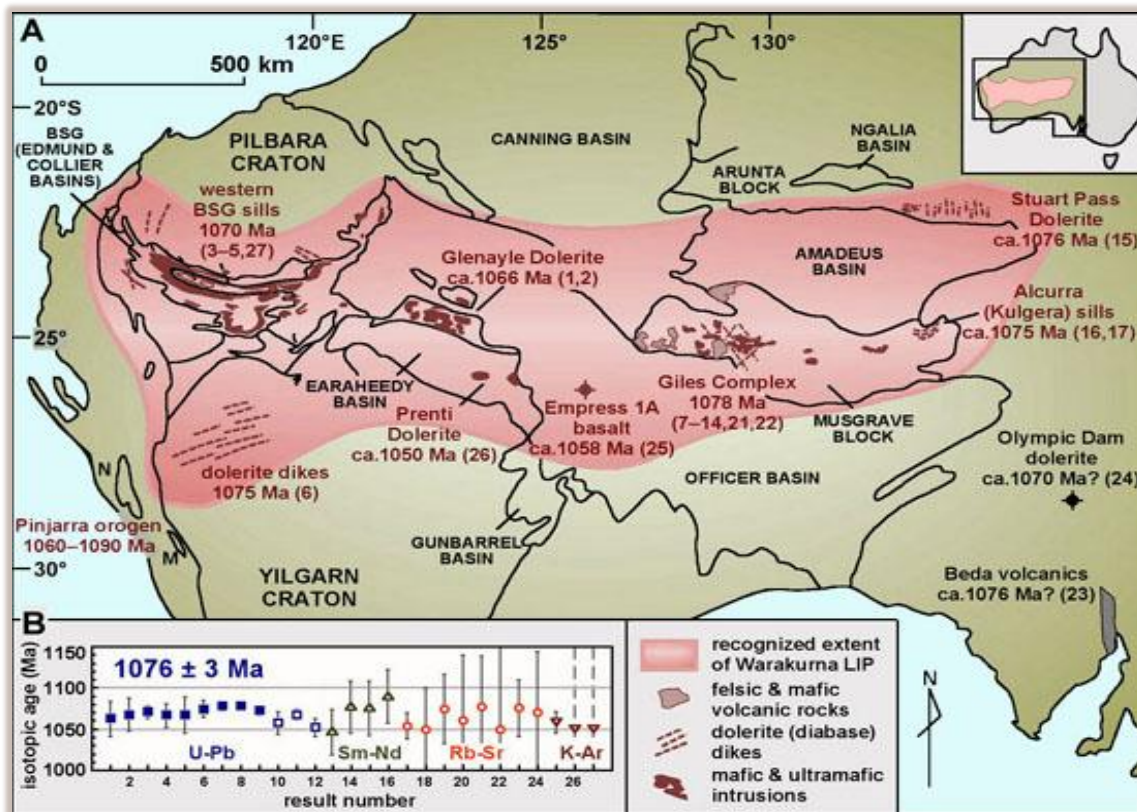
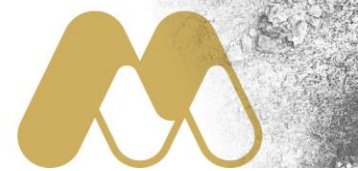


Figure 5. Simplified geology of western and central Australia, showing the distribution of ca. 1075 Ma igneous rocks of the Warakurna Large Igneous Province (LIP) (Wingate, 2004).

Morris and Pirajno (2005) summarised the mineral potential of the Warakurna LIP in Figure 6 and stated:

- “The western Bangemall Supergroup, with its thick mafic sill sequence, would be a prime exploration target for Ni–Cu–PGE sulphides,” and
- “The Bangemall Supergroup ... is considered to be highly prospective for Noril’sk-type Ni–PGE deposits in the (dolerite) sill complexes,”.

Miramar therefore believes there is potential for the deposition of Ni-Cu-PGE mineralisation where these dolerite sills intrude into the sedimentary basin, as shown in the model proposed by Leshar (Figure 7).

Support for this theory comes in the form of several regional-scale nickel, copper and PGE anomalies, spatially related to the Kulkatharra Dolerite sills, including along the northern margin of the Edmund Basin.

In the Bangemall region, the Kulkatharra Dolerite sills intruded into sediments of both the older Edmund Basin and the younger Collier Basin, including pyritic and carbonaceous siltstone of the Ilgarari Formation.

Miramar’s Bangemall Project tenements therefore cover locations where the Kulkatharra Dolerite sills intrude into sulphidic sediments and/or where regional Ni-Cu-PGE anomalism is seen (Figure 8.).

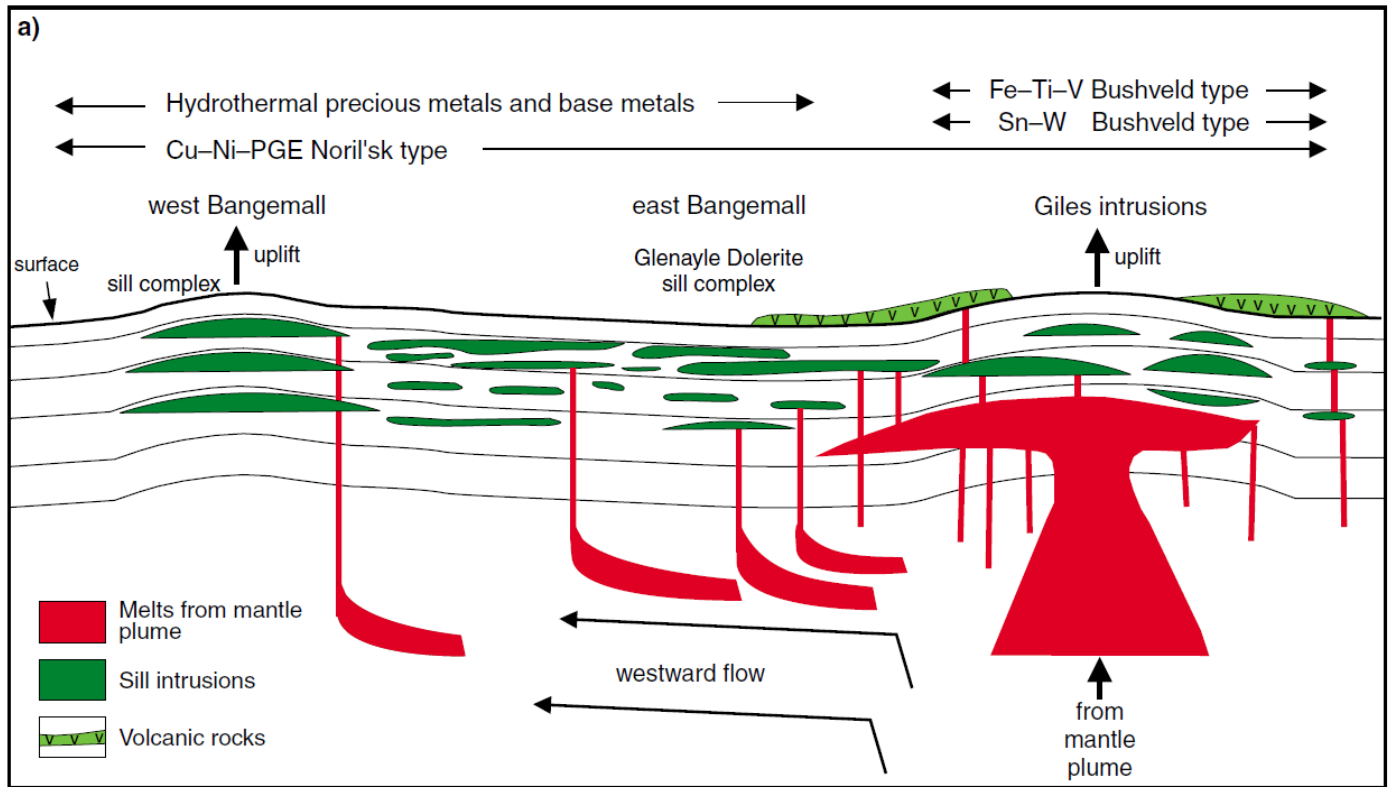
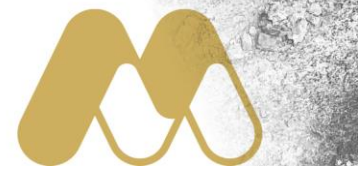


Figure 6. Schematic longitudinal section (not to scale) depicting the regional architecture of the Warakurna Large Igneous Province with potential mineralisation styles (Morris and Pirajno, 2005).

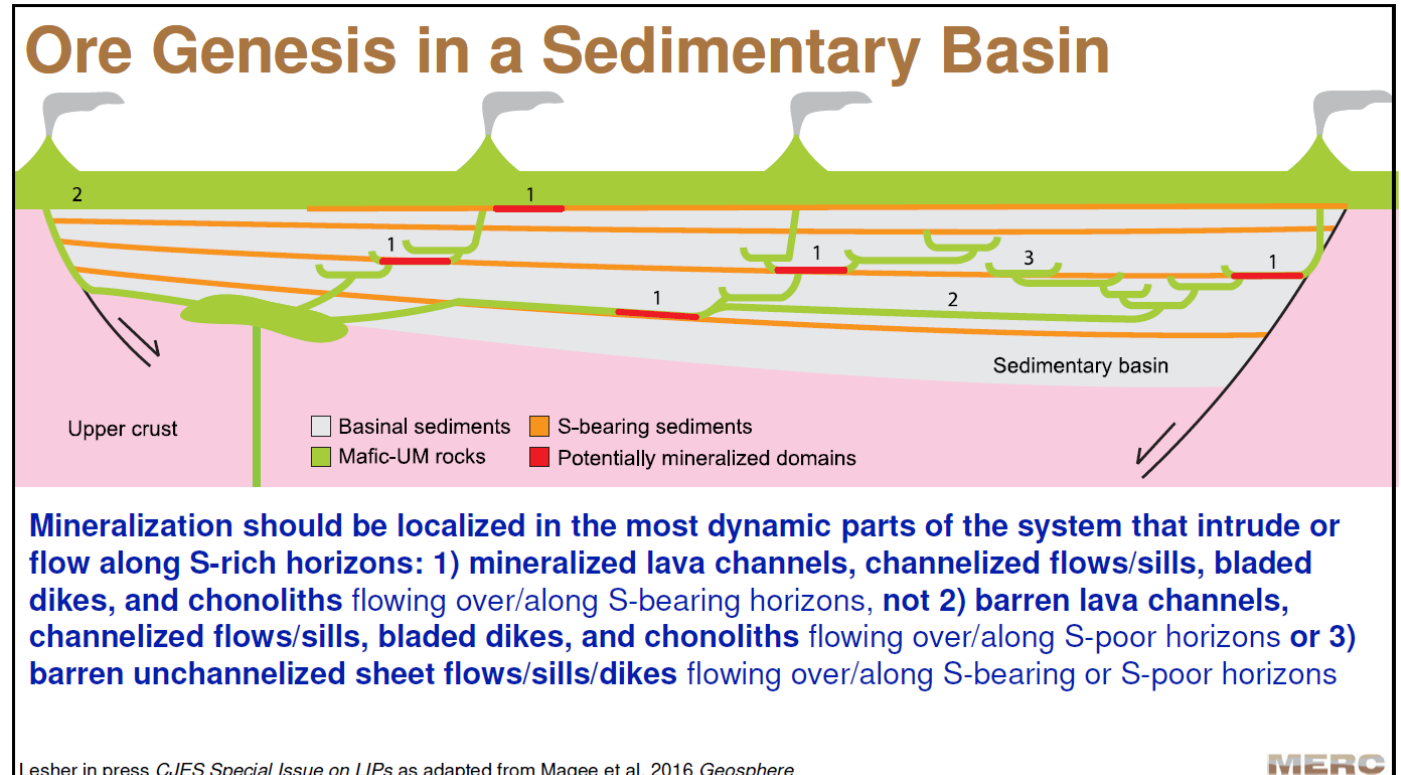


Figure 7. Conceptual model for formation of Ni-Cu-PGE mineralisation in a sedimentary basin (Leshner, 2019).

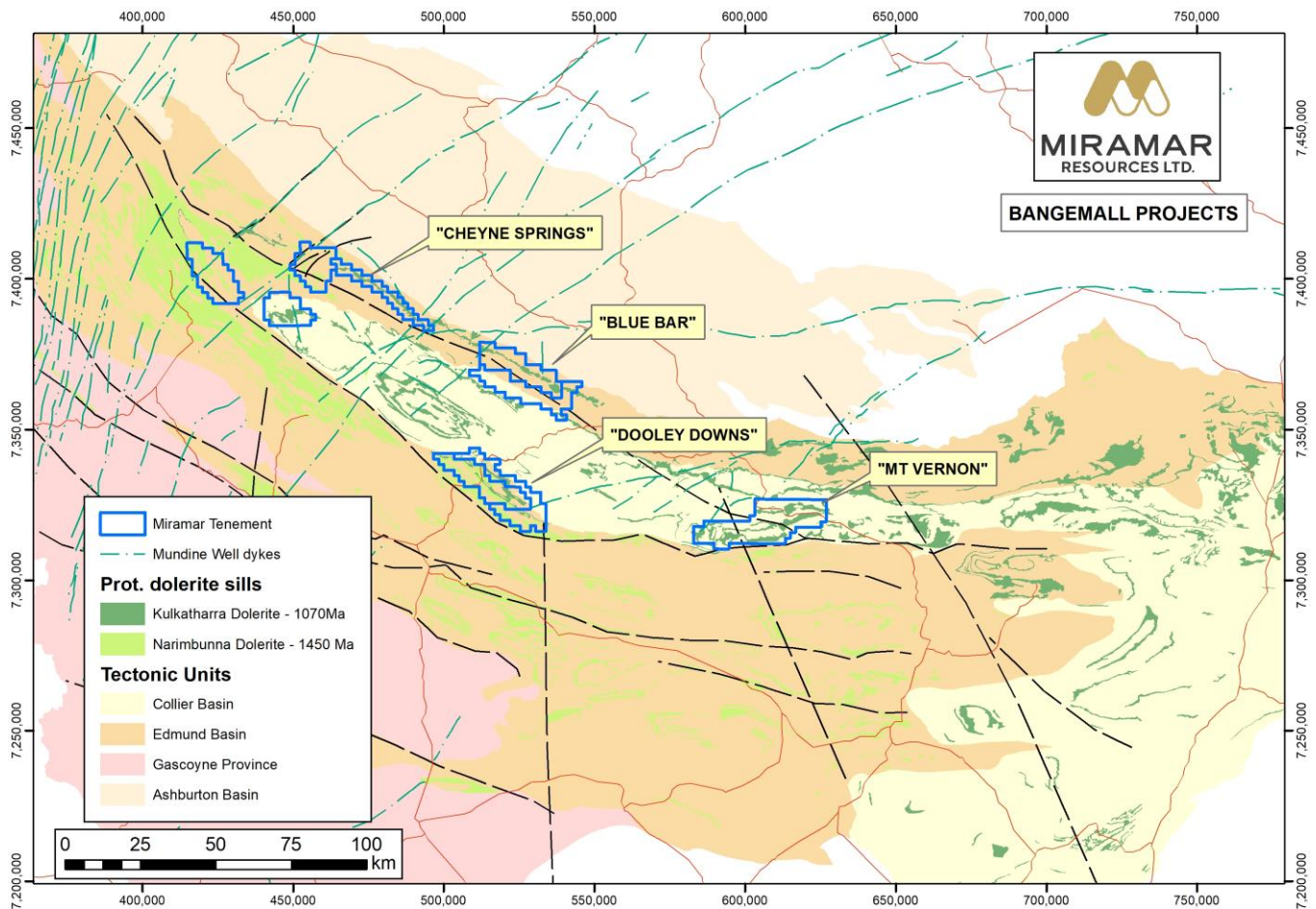
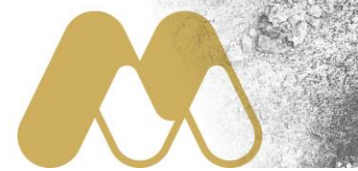


Figure 8. Bangemall Project tenements showing regional geology, highlighting Kulkatharra Dolerite sills.

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:

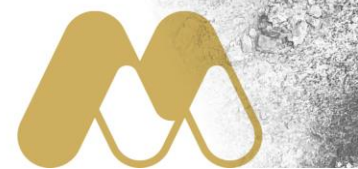
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This announcement has been authorised for release by Mr Allan Kelly, Executive Chairman, on behalf of the Board of Miramar Resources Limited.

References

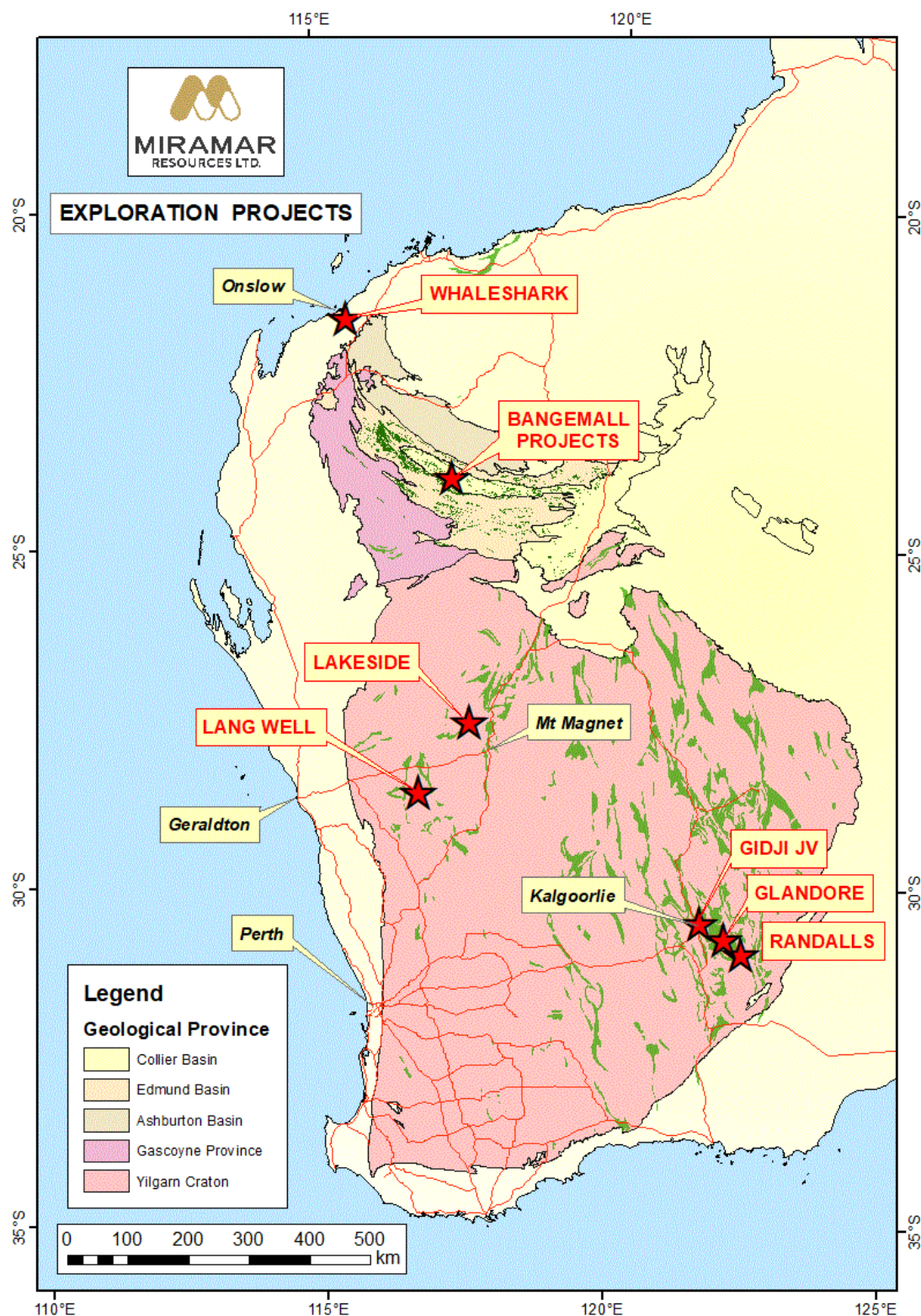
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- Wingate, Pirajno, and Morris, 2004. *Warakurna large igneous province: A new Mesoproterozoic large igneous province in west-central Australia*. "Geology".



About Miramar Resources Ltd

Miramar Resources Limited is a WA-focused mineral exploration company actively exploring projects in the Eastern Goldfields, Murchison and Gascoyne regions and listed on the ASX in October 2020.

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, are included in the Miramar Prospectus dated 4 September 2020.

Recent exploration results for the Bangemall Projects, including JORC Table 1 and 2 information, are included in the following ASX releases:

- 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”*