

## GASCOYNE REGION EXPLORATION UPDATE

- **Modelling of Whaleshark gravity data outlines high priority bedrock IOCG target**
- **POW for Whaleshark diamond drilling approved and EIS application submitted**
- **Geochemical sampling planned for Dooley Downs and Mount Vernon**

**Miramar Resources Limited (ASX:M2R, “Miramar” or “the Company”)** is pleased to provide an update on exploration activities planned for its extensive Gascoyne region project portfolio.

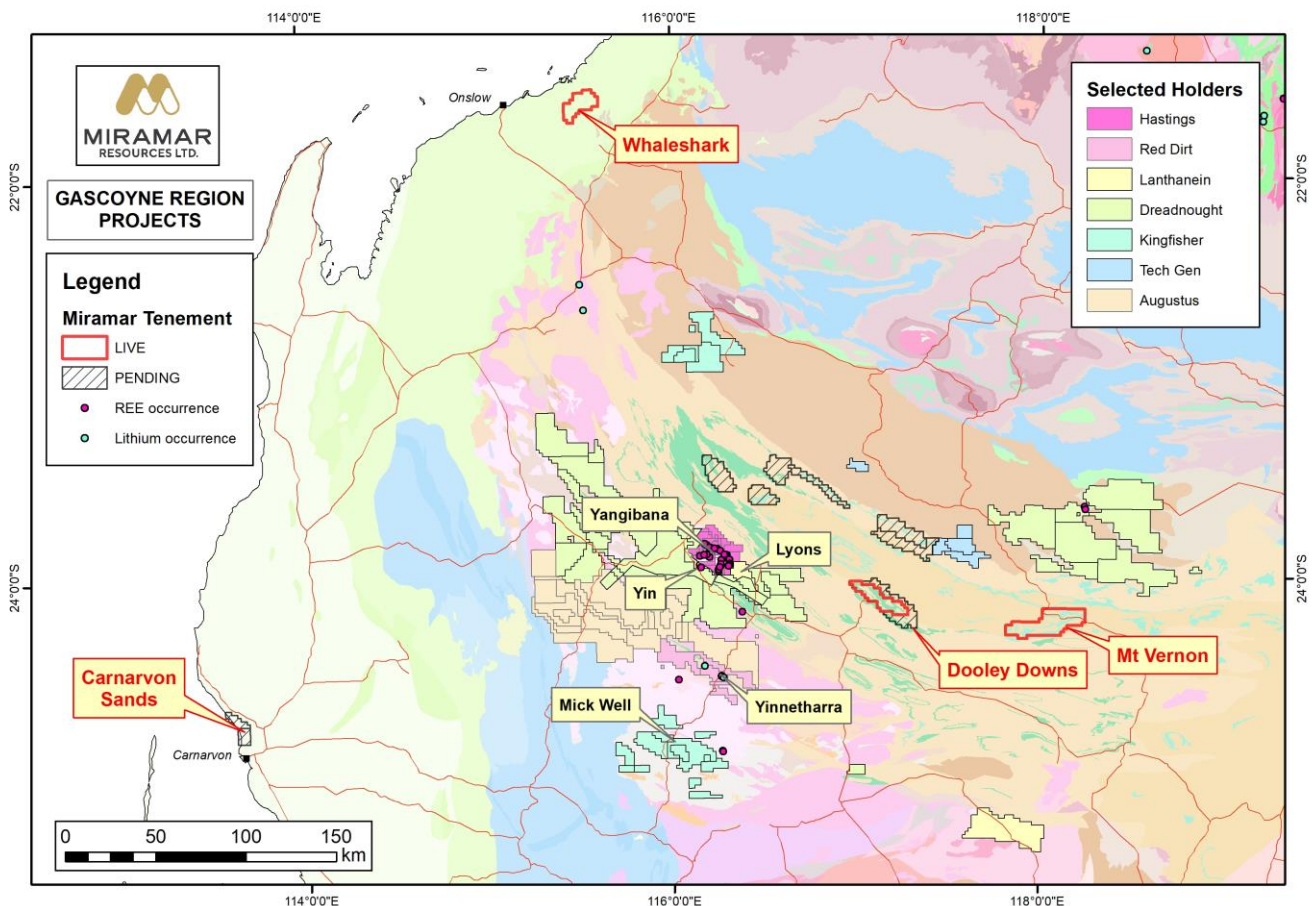
The Company has a number of 100%-owned projects in the rapidly emerging Gascoyne Mineral Province which are prospective for a range of commodities including: iron oxide copper-gold (IOCG), REE's hosted in carbonatites and Ni-Cu-PGE's associated with Proterozoic dolerite sills.

Miramar's Executive Chairman, Mr Allan Kelly, said the Company was shifting its focus to the Gascoyne region in 2023, after spending the first two years mostly advancing its Eastern Goldfields gold projects.

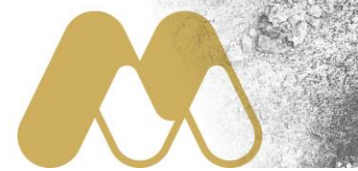
*“We have a number of fantastic discovery opportunities right across our project portfolio but the Gascoyne region has really heated up over the last 12-18 months,” Mr Kelly said.*

*“Now that we have completed regional-scale targeting on our granted projects, we are looking forward to focussing in on our more advanced targets this year,” he added.*

*“We're excited about the potential at Whaleshark and/or Bangemall with a new IOCG, REE or Ni-Cu-PGE discovery a real possibility at these project sites.”*



**Figure 1. Gascoyne region showing Miramar tenements and selected other tenement holders.**



## Whaleshark

Modelling and inversion of detailed gravity data collected during 2022 has identified a discrete gravity anomaly within the neck of the Whaleshark granite which is cross-cut by a NW-trending structure interpreted from aeromagnetic data (Figure 1).

The gravity anomaly, which may be caused by an accumulation of dense hematite +/- IOCG mineralisation, is coincident with the surface geochemical anomalism seen in mobile metal ion (MMI) soil analysis carried out in 2021 and geochemical anomalism seen in the “interface” aircore drilling conducted during 2022, including the highest copper assay received from the project to date (Figure 2).

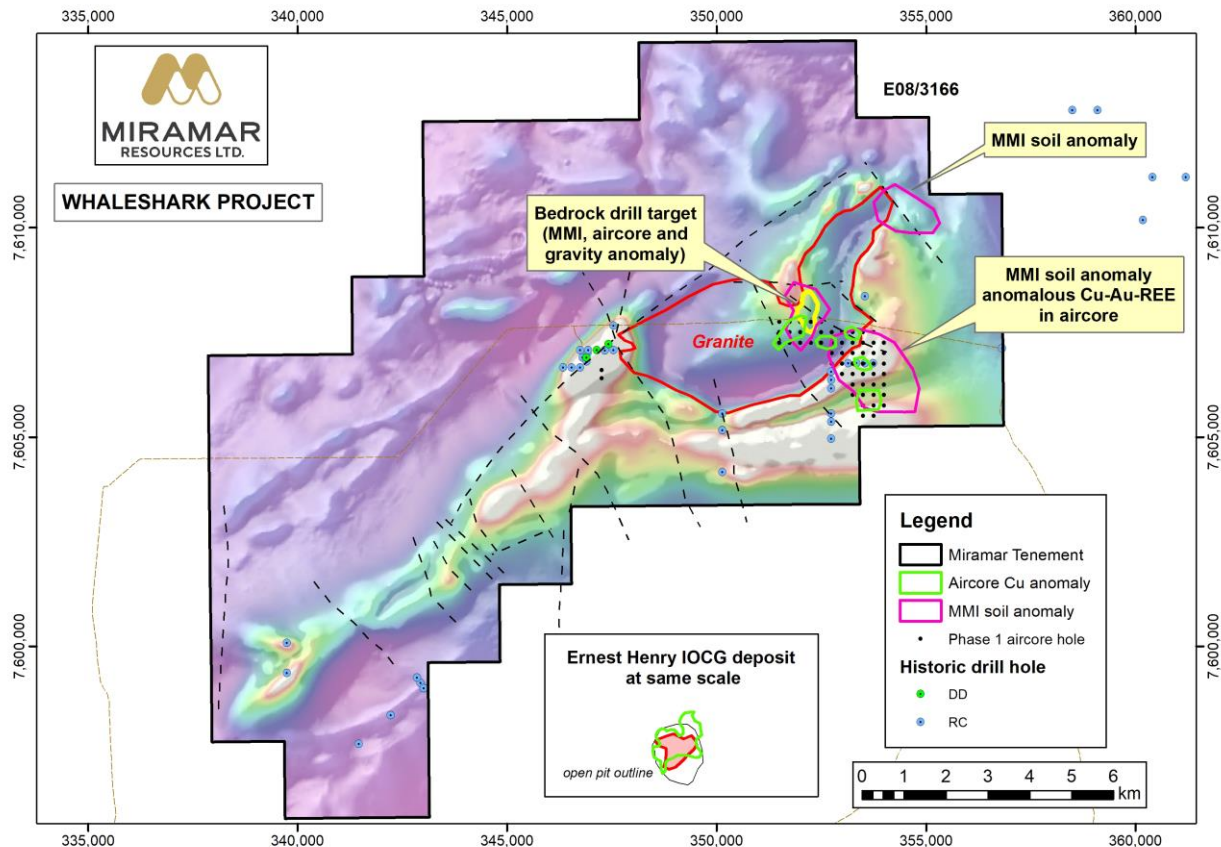
The gravity anomaly is also adjacent to a bulge and increase in the magnetic anomaly in the surrounding banded iron formation (BIF) which may be caused by an accumulation of magnetite +/- IOCG mineralisation.

Modelling indicates the source of the gravity anomalies could be as shallow as 80-100m below surface and therefore just beyond the reach of the shallower aircore drilling.

The juxtaposition of a gravity and magnetic anomaly is a classic signature of many large IOCG deposits, whilst the scale of the combined geochemical and gravity target is similar to the large Ernest Henry IOCG deposit in Queensland.

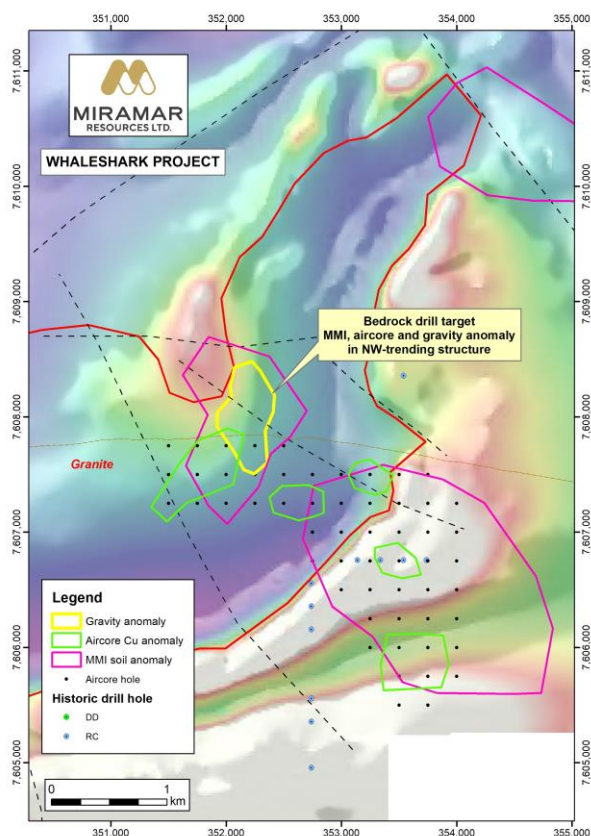
The Company has recently received Programme of Work approval for a drill programme to test the gravity anomaly with 1-2 diamond holes and has also submitted an Application to be considered for the current round of co-funded drilling under the WA government’s “Exploration Incentive Scheme”.

Drilling will commence following completion of a heritage survey over the proposed drill sites.

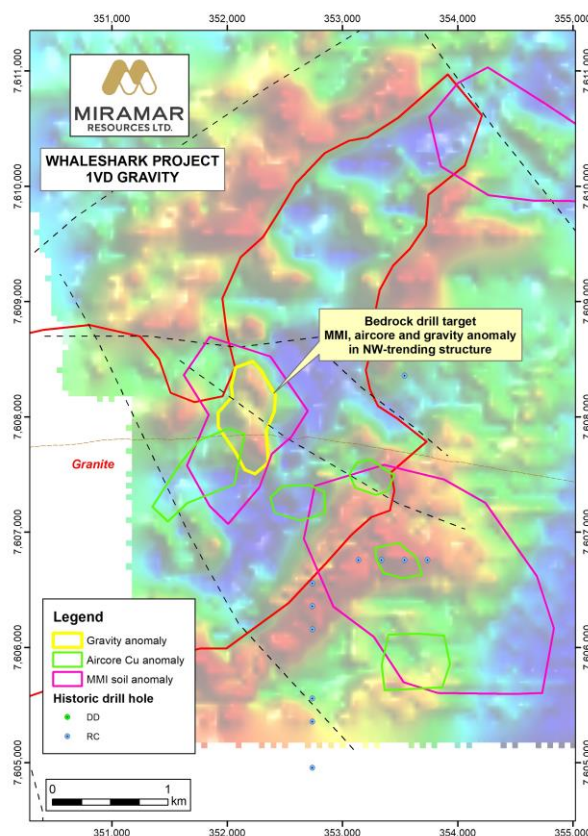


**Figure 1.** Whaleshark magnetic image showing targets compared to Ernest Henry IOCG deposit.

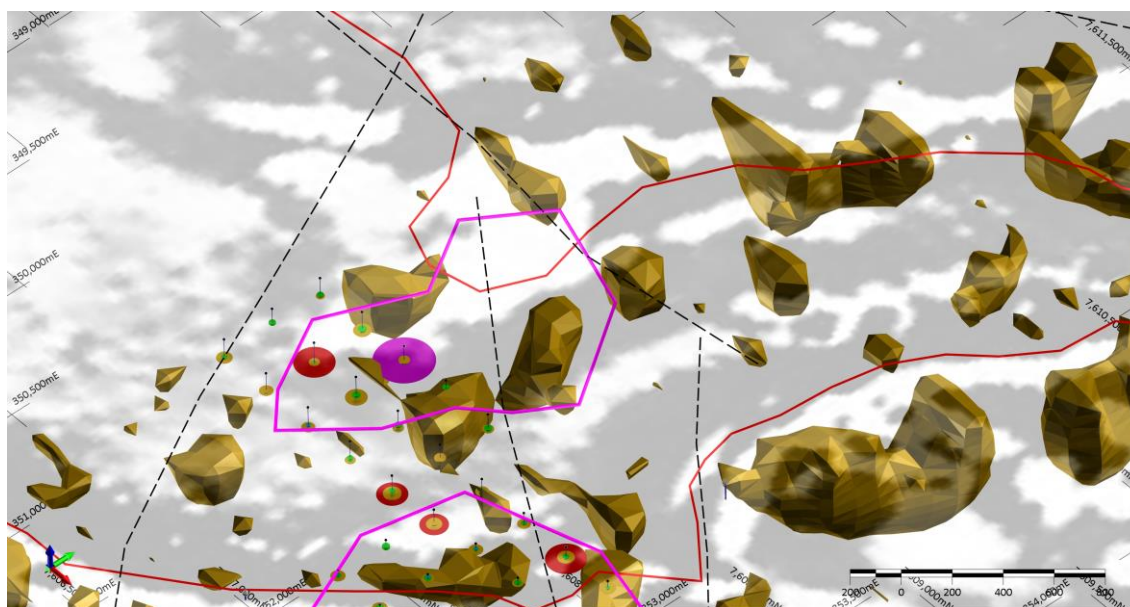




**Figure 2 a)** Magnetic image of Whaleshark target.



**Figure 2 b)** First vertical derivative gravity of Whaleshark target.



**Figure 3.** Oblique view of Whaleshark bedrock target (looking NW).

Gravity inversion models (brown shapes) in the “neck” of the granite (red outline) are crosscut by a NW-trending fault (dotted line). Surface MMI anomalies are shown as pink outlines and aircore copper results are shown as coloured discs, with the highest copper result immediately adjacent to the southern half of the gravity anomaly.



## Dooley Downs

The Dooley Downs target is one of several large projects held by the Company that make up the larger “Bangemall Project” within the Proterozoic Capricorn Orogen, between the older Archean Yilgarn and Pilbara Cratons.

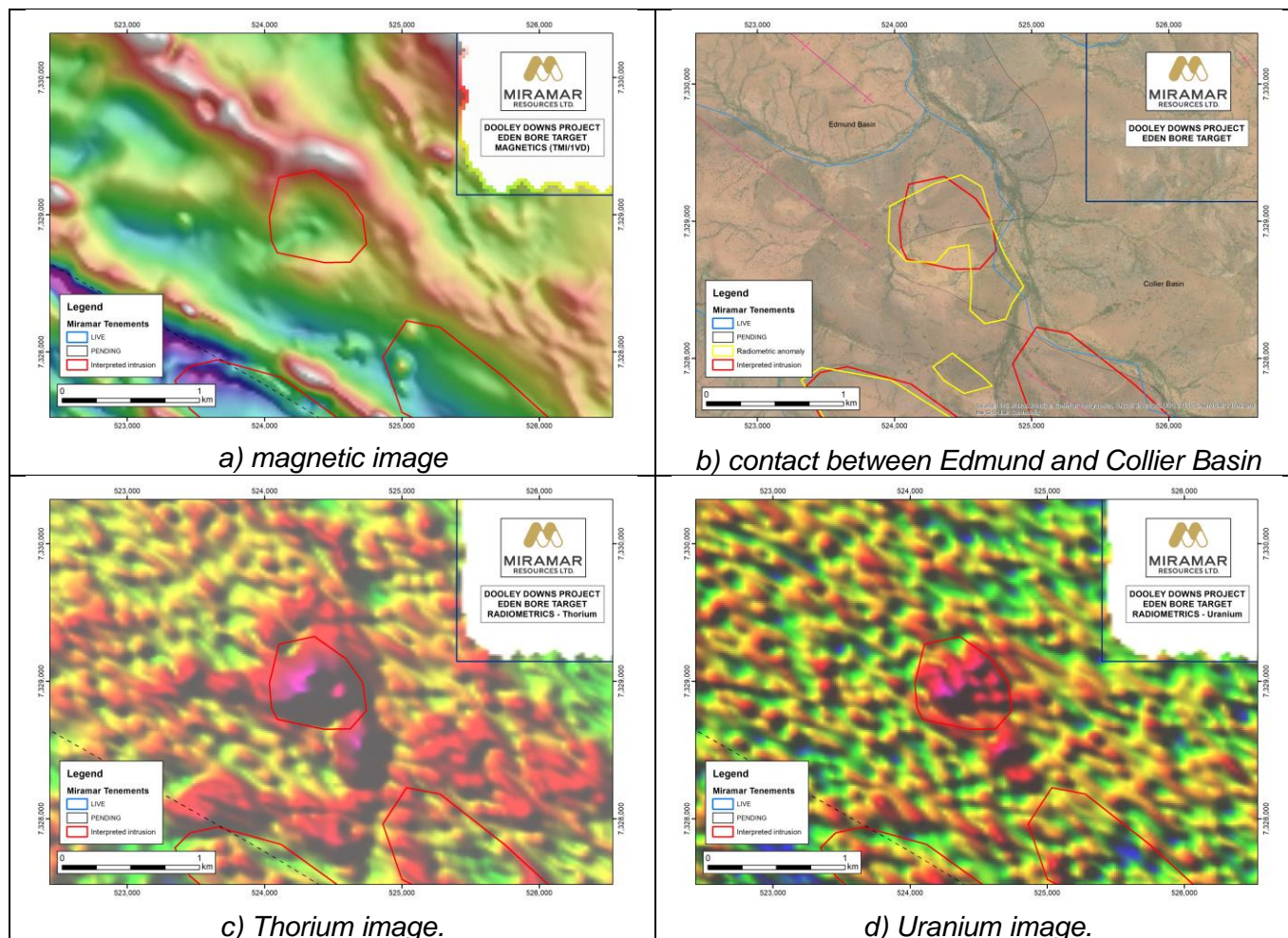
The Dooley Downs tenements were originally acquired to examine the potential for Proterozoic Ni-Cu-PGE mineralisation related to the numerous Proterozoic dolerite sills, based on a number of large regional geochemical and geophysical anomalies in the area.

Following the discovery of several REE-bearing carbonatite intrusions by neighbouring companies, Miramar flew a detailed magnetic and radiometric survey over the Dooley Downs target in late 2022.

As previously reported to the market, the survey highlighted several radiometric anomalies that were coincident with magnetic anomalies that could represent unmapped and/or buried intrusions, including potential carbonatites.

The most compelling of these is the “Eden Bore” target where a large circular magnetic anomaly at the contact between Edmund and Collier Basin rocks is coincident with a strong Thorium and Uranium anomaly (Figure 4).

Miramar plans to test this target with systematic soil and/or auger sampling, followed by drilling.



**Figure 4** Eden Bore target showing various imagery and interpreted intrusion (red outline).





## Mount Vernon

The Mount Vernon target covers a series of Proterozoic Kulkatharra Dolerite sills where regional data highlighted a number of large geophysical and geochemical anomalies, and where limited historical exploration work identified anomalous Ni-Cu and PGE's in soil sampling and drilling.

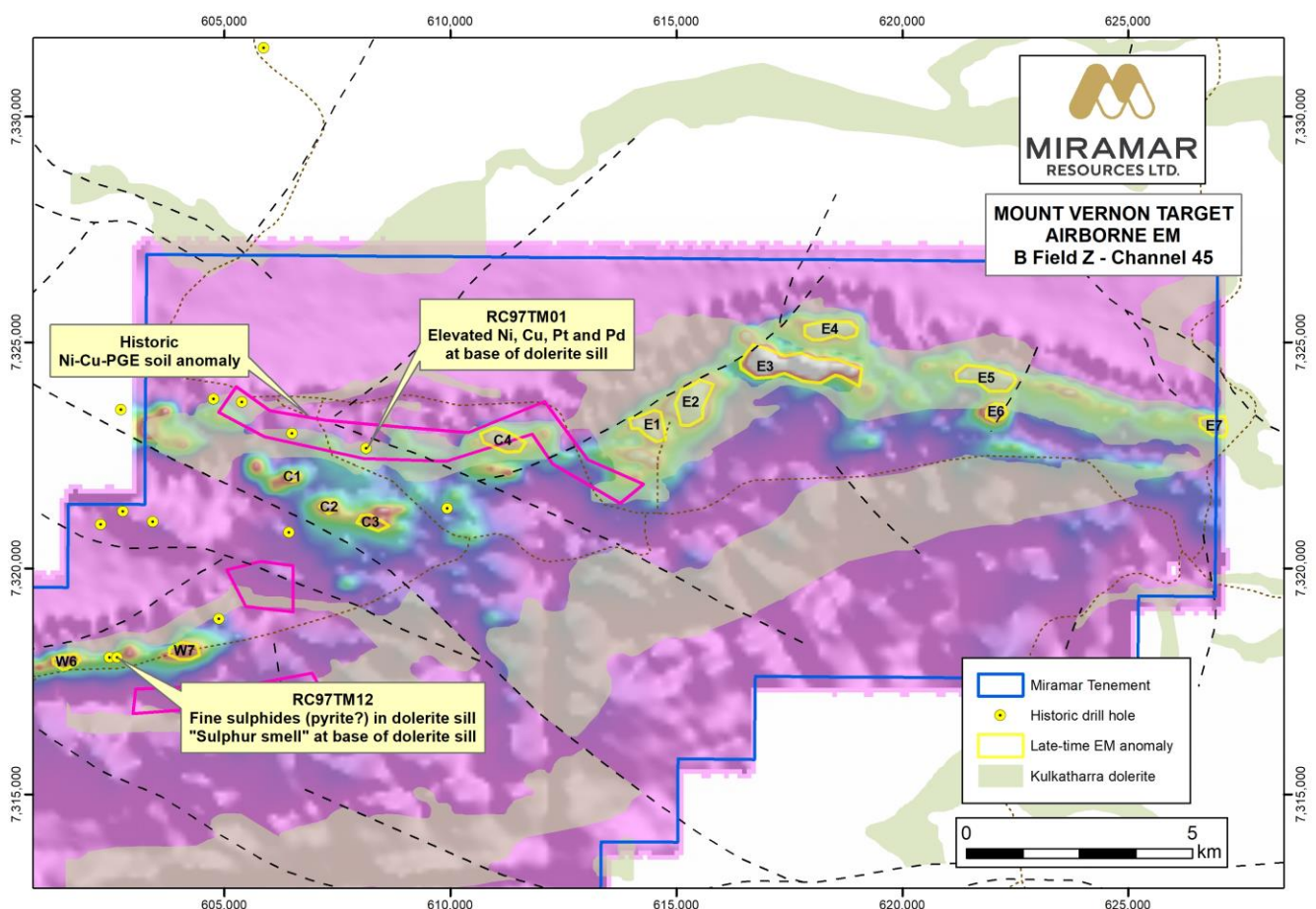
Miramar flew a detailed magnetic and electromagnetic (EM) survey over the target in early 2022 which highlighted a number of late-time EM anomalies associated with one particular dolerite sill towards the northern edge of the project area (Figure 5).

The previous drilling targeted Cu-Pb-Zn mineralisation within the various sedimentary units meaning none of the EM anomalies related to the dolerite sills have been specifically targeted.

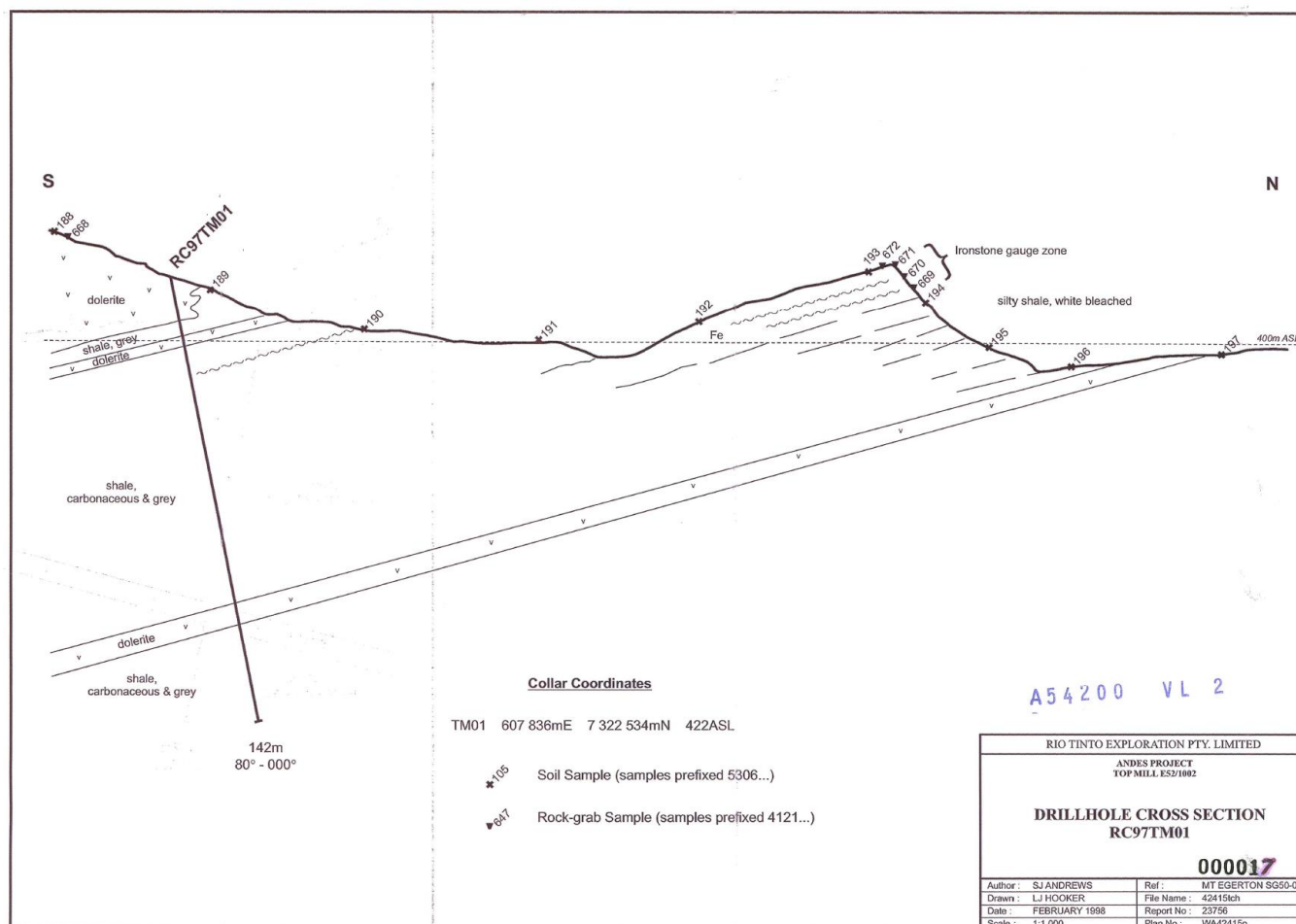
Significantly, hole RC97TM01 collared in a southerly dipping dolerite sill and intersected elevated nickel, copper and PGE's at the base of that sill (Figure 6), whilst RC97TM12 intersected sulphides in a dolerite sill which prompted the geologist to record a "sulphur smell" from the drill chips.

Neither of these holes tested an EM anomaly, but the previous drilling confirmed the presence of sulphidic sediments which have been intruded by the various dolerite sills. Most major magmatic nickel sulphide deposits are associated with sulphur-bearing country rocks.

The Company is planning a reconnaissance site visit and a systematic sampling programme testing each of the EM anomalies with the aim of identifying Ni-Cu-PGE sulphide mineralisation.



**Figure 5.** Eastern portion of Mt Vernon Project showing late-time EM anomalies and limited historic drilling in relation to the Proterozoic Kulkatharra Dolerite sills.



**Figure 6.** Schematic cross section of historic hole RC97TM01 showing shallow southerly-dipping dolerite sills intruding Collier Basin sediments. This hole intersected elevated Ni, Cu, Pt and Pd at the base of the uppermost dolerite sill overlying sulphidic sediments (Source: WAMEX a54200).

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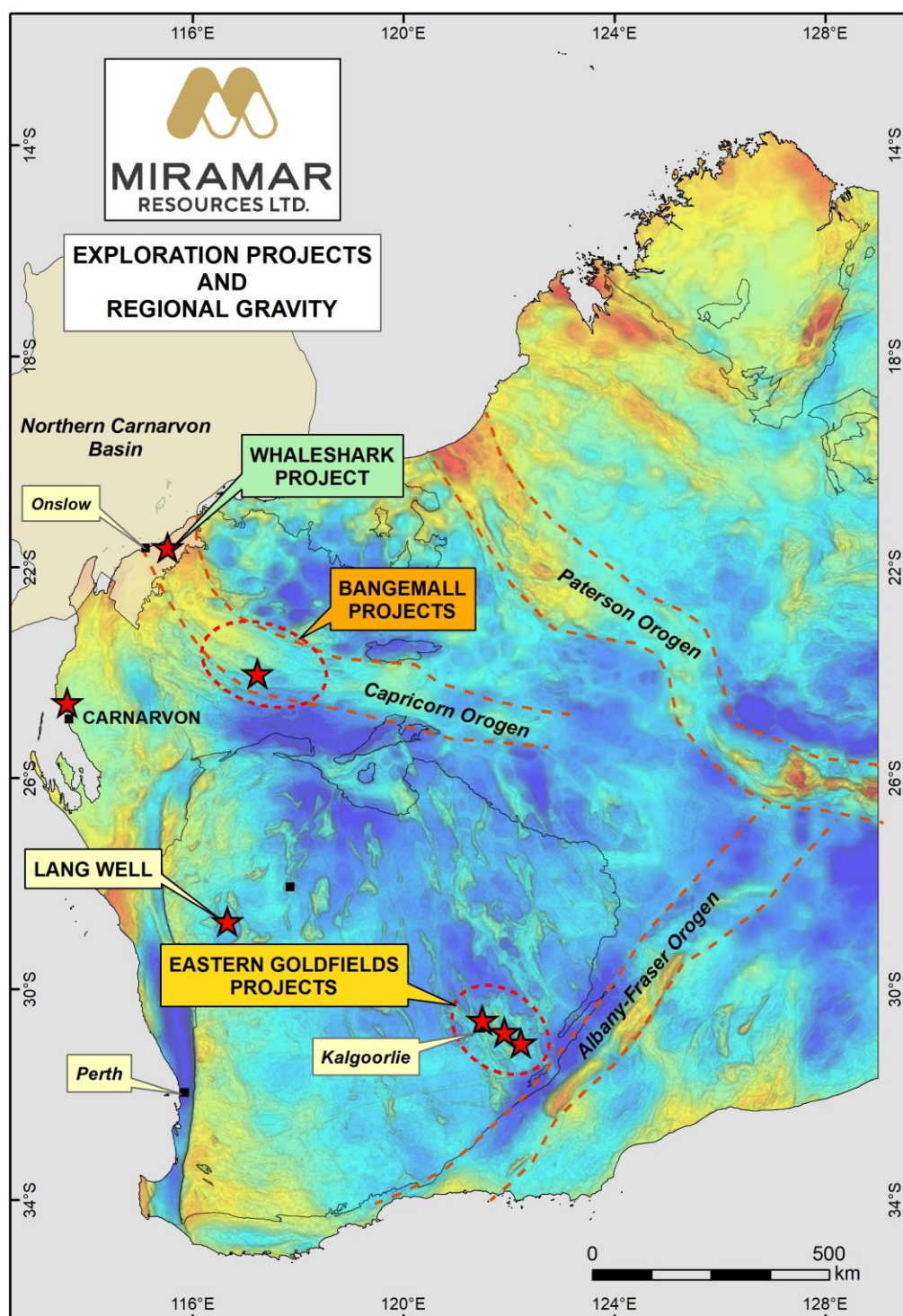
This announcement has been authorised for release by Mr Allan Kelly, Executive Chairman, on behalf of the Board of Miramar Resources Limited.



## About Miramar Resources Limited

Miramar Resources Limited is an active WA-focused mineral exploration company with highly prospective exploration projects in the Eastern Goldfields, Murchison and Gascoyne regions of Western Australia.

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







## COMPETENT PERSON STATEMENT

The information in this report that relates to Exploration Targets or 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 presentation of the matters based on his information and in the form and context in which it appears.

Information on historical exploration results for the Bangemall and Whaleshark Projects, including JORC Table 1 and 2 information, is included in the Miramar Prospectus dated 4 September 2020.

Information on recent exploration carried out by Miramar Resources Limited, including JORC Table 1 and 2 information, is included in the following ASX Announcements:

### Whaleshark

- 14 Feb 2023 – “*Significant Basement Copper and Cobalt Results Upgrade Whaleshark IOCG Potential*”
- 14 Dec 2022 – “*Whaleshark REE Results Upgrade IOCG Potential*”
- 7 Nov 2022 – “*Aircore Drilling Confirms IOCG Potential at Whaleshark*”
- 18 Aug 2022 – “*Drilling underway at Whaleshark Copper-Gold Project*”
- 13 Dec 2021 – “*Large IOCG targets outlined at Whaleshark*”
- 3 Sep 2021 - “*Whaleshark Soil Survey Outlines Numerous Large Targets*”.