



**MIRAMAR**  
RESOURCES LTD.

# WA Gold and Critical Minerals

RIU Sydney Resources Roundup  
7 - 9 May 2024



[miramarresources.com.au](https://miramarresources.com.au) | ASX: M2R



# Disclaimer/Competent Person Statement

## Forward-Looking Statements

Statements in this presentation which are not statements of historical facts, including but not limited to those relating to the proposed transactions, are forward-looking statements. These statements instead represent management's current expectations, estimates and projections regarding future events.

Although management believes the expectations reflected in such forward-looking statements are reasonable, forward-looking statements are based on the opinions, assumptions and estimates of management at the date the statements are made and are subject to a variety of risks and uncertainties and other factors that could cause actual events or results to differ materially from those projected in the forward-looking statements. Accordingly, investors are cautioned not to place undue reliance on such statements.

## 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. Allan 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.

Allan 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'. Allan 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 results for all projects within this presentation, including JORC Table 1 and 2 Information, is included in the Miramar Resources Limited Prospectus dated 4 September 2020.

JORC Table 1 and 2 Information for Miramar results for all projects within this presentation are included in the relevant ASX releases.

# Miramar Resources

## Aim

*“Create shareholder value through **discovery**”*

## Strategy

- Explore for **in-demand** commodities
  - **Gold - record gold price environment**
  - **Ni-Cu-Co-PGE's - Critical minerals**
- Acquire **underexplored projects in world-class mineral provinces**
- Leverage off existing mining and/or processing infrastructure



# Investment Highlights

## Eastern Goldfields (Au)

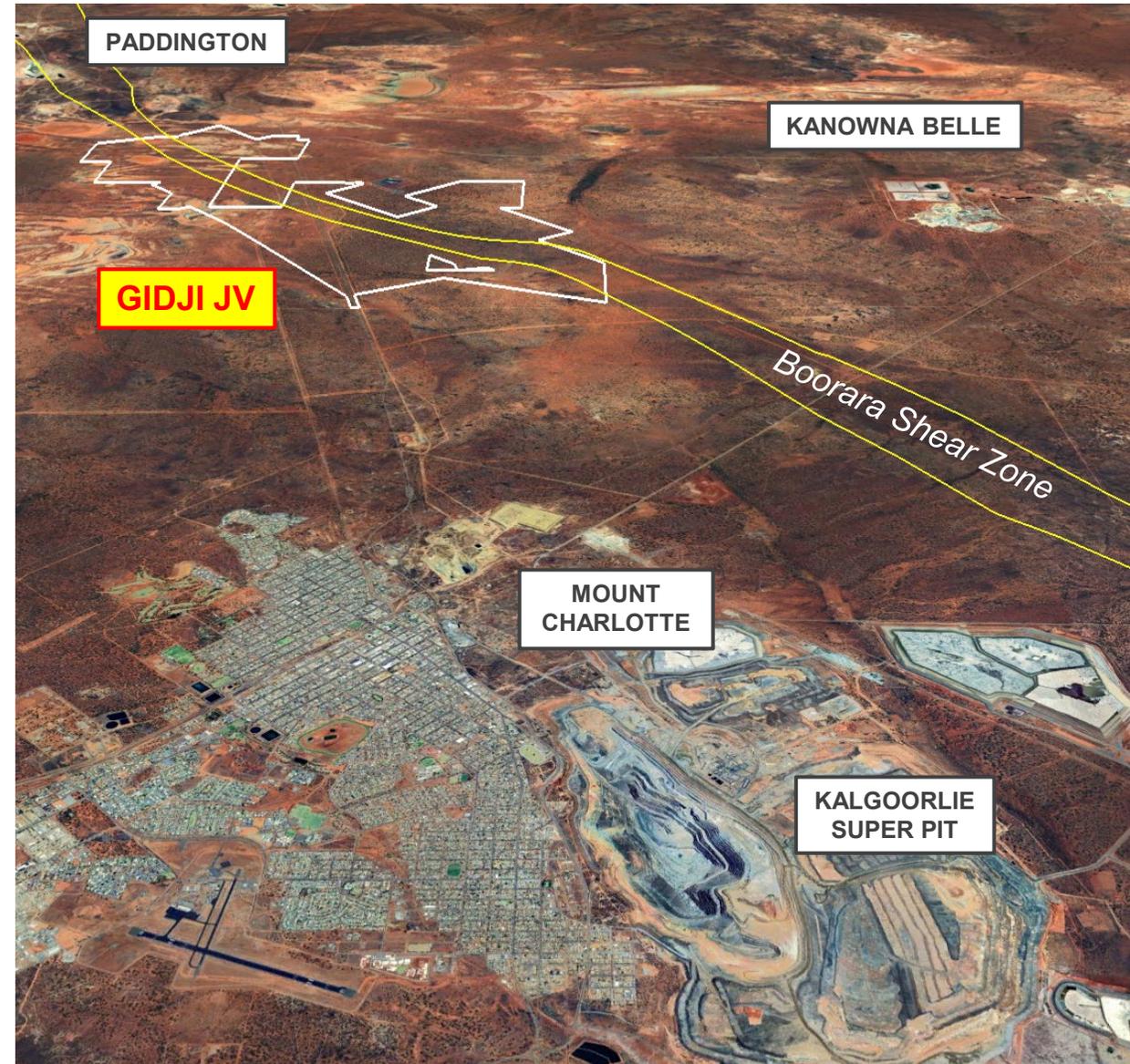
- Two underexplored camp-scale gold projects

## Bangemall (Ni-Cu-Co-PGE)

- Exploring for large Ni-Cu-Co-PGE deposits in the underexplored Capricorn Orogen

## Whaleshark (Cu-Au-Fe)

- Unique multi-commodity project in infrastructure-rich area





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# Eastern Goldfields

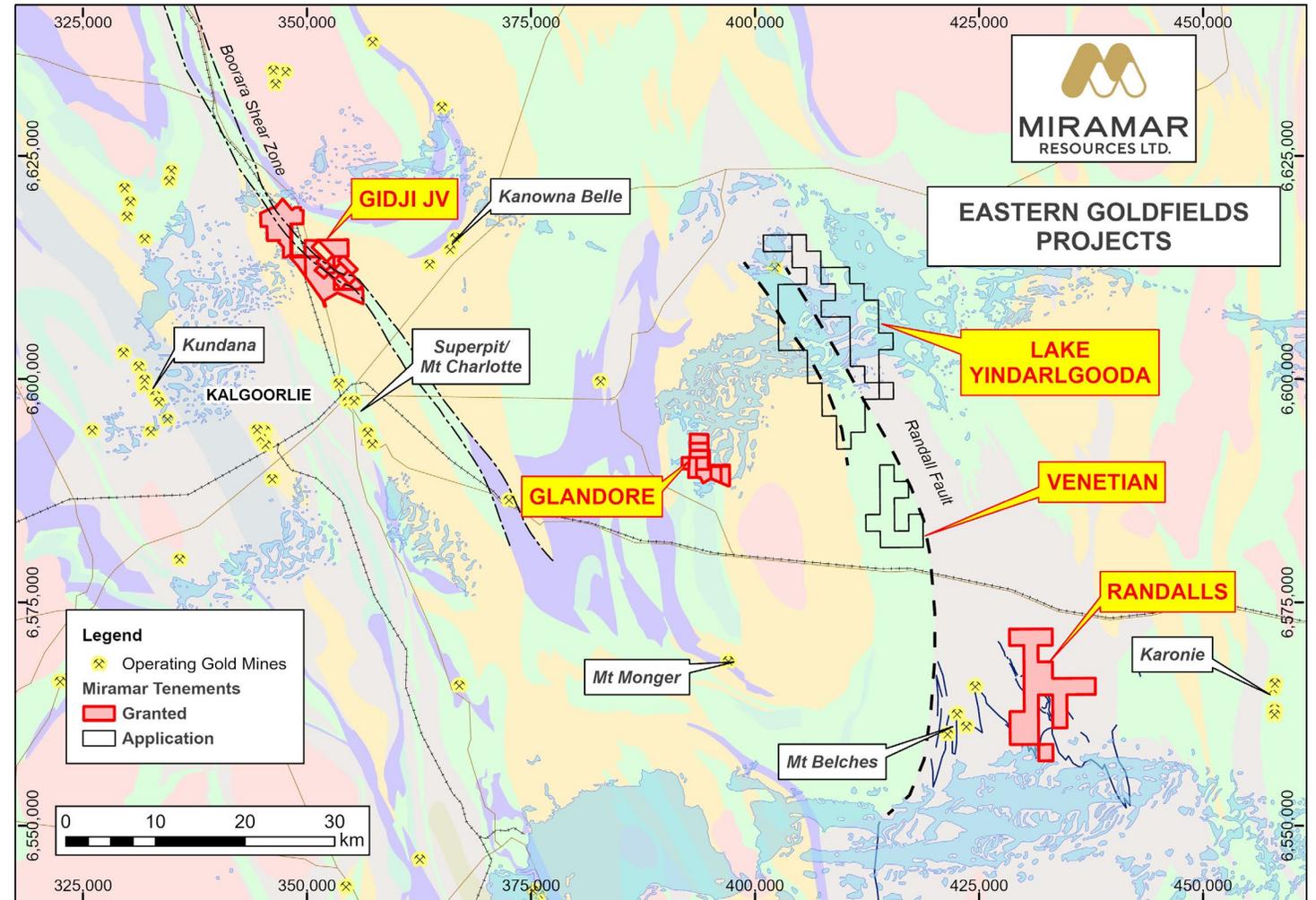
## Camp-scale gold opportunities

Au



# Eastern Goldfields projects

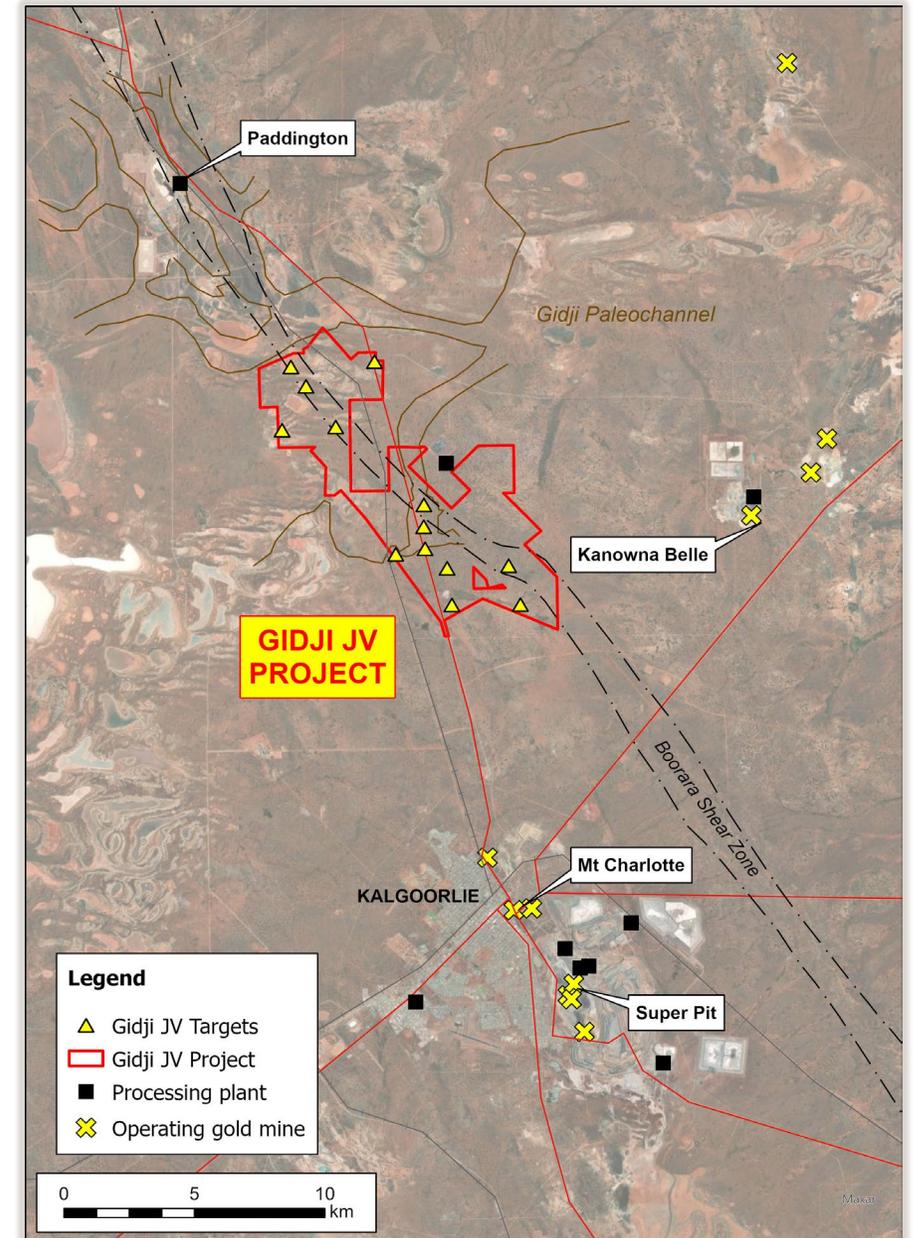
- Strategic land position in a world-class gold province
- Two camp-scale gold projects
  - **Gidji JV**
  - **Lake Yindarlgooda**
- Proximity to multiple gold mining/processing operations
- Year-round access



# Gidji JV (Miramar 80%)

*“The cheapest house in the best street”*

- 15km N of Kalgoorlie via major highway
- Surrounded by **multiple major gold deposits** and/or **processing plants**
- **Dilational jog** in major mineralised structure – **Boorara Shear Zone**
- **Underexplored** - transported cover and paleochannel hampered previous exploration
- Opportunity for discovery of a **new gold camp** with **potential for multiple deposits**



# Gidji JV

Miramar has made multiple new gold discoveries within and/or under the Gidji Paleochannel

## ■ Marylebone

- Multiple high-grade aircore results
- 55 - 155koz Au Exploration Target\* from shallow aircore drilling

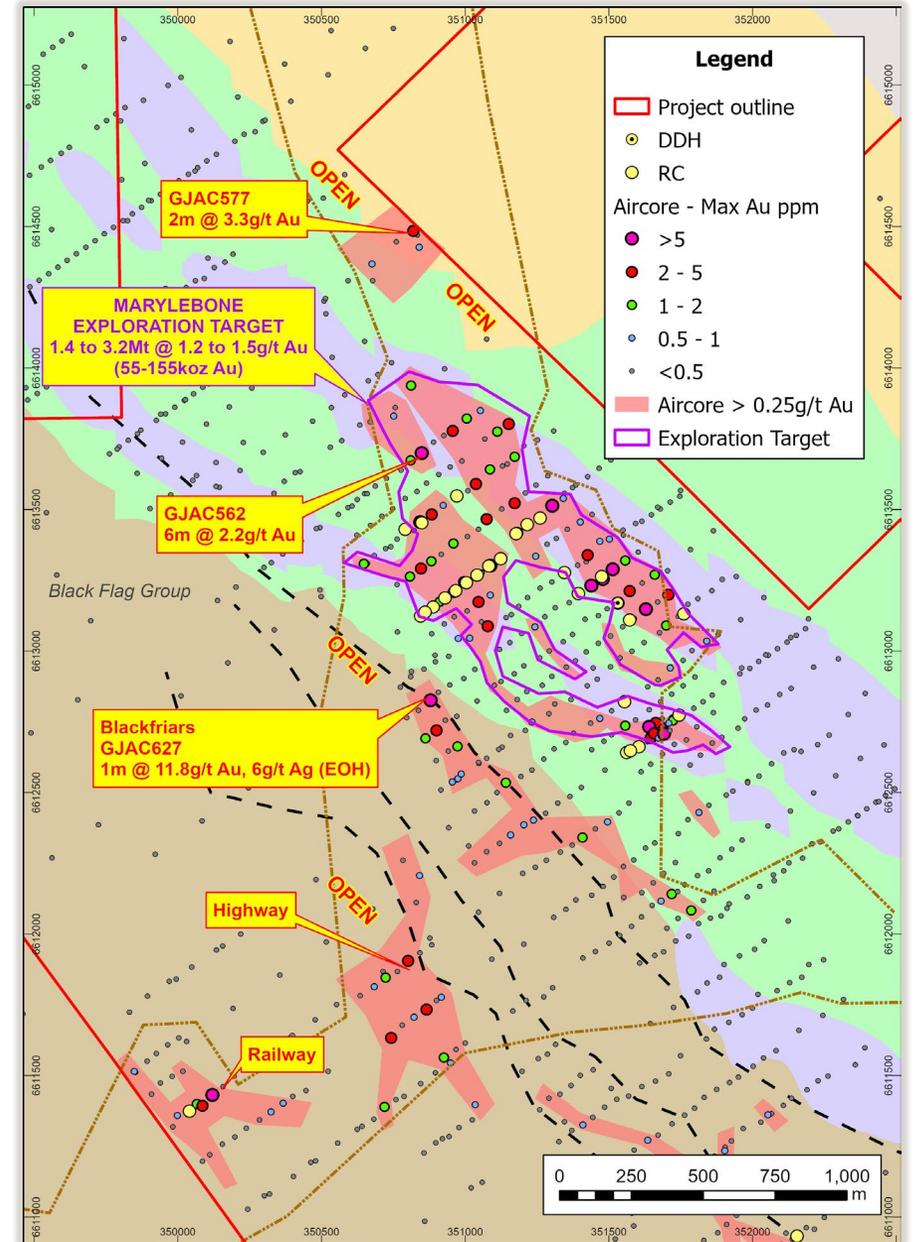
## ■ Blackfriars

- High priority “Paddington lookalike” target

## ■ Highway-Piccadilly

## ■ Railway

\*The Exploration Target has been prepared and reported in accordance with the 2012 edition of the JORC Code. The potential quantity and grade are conceptual in nature and there has been insufficient exploration to estimate a Mineral Resource. It is uncertain if further exploration will result in the estimation of a JORC-compliant Mineral Resource. (See ASX Release dated 2 February 2023)



# Gidji JV - Blackfriars

## Potential new bedrock gold discovery

- Contact between Black Flag Group and mafic/UM rocks in Boorara Shear Zone
- “Paddington lookalike”

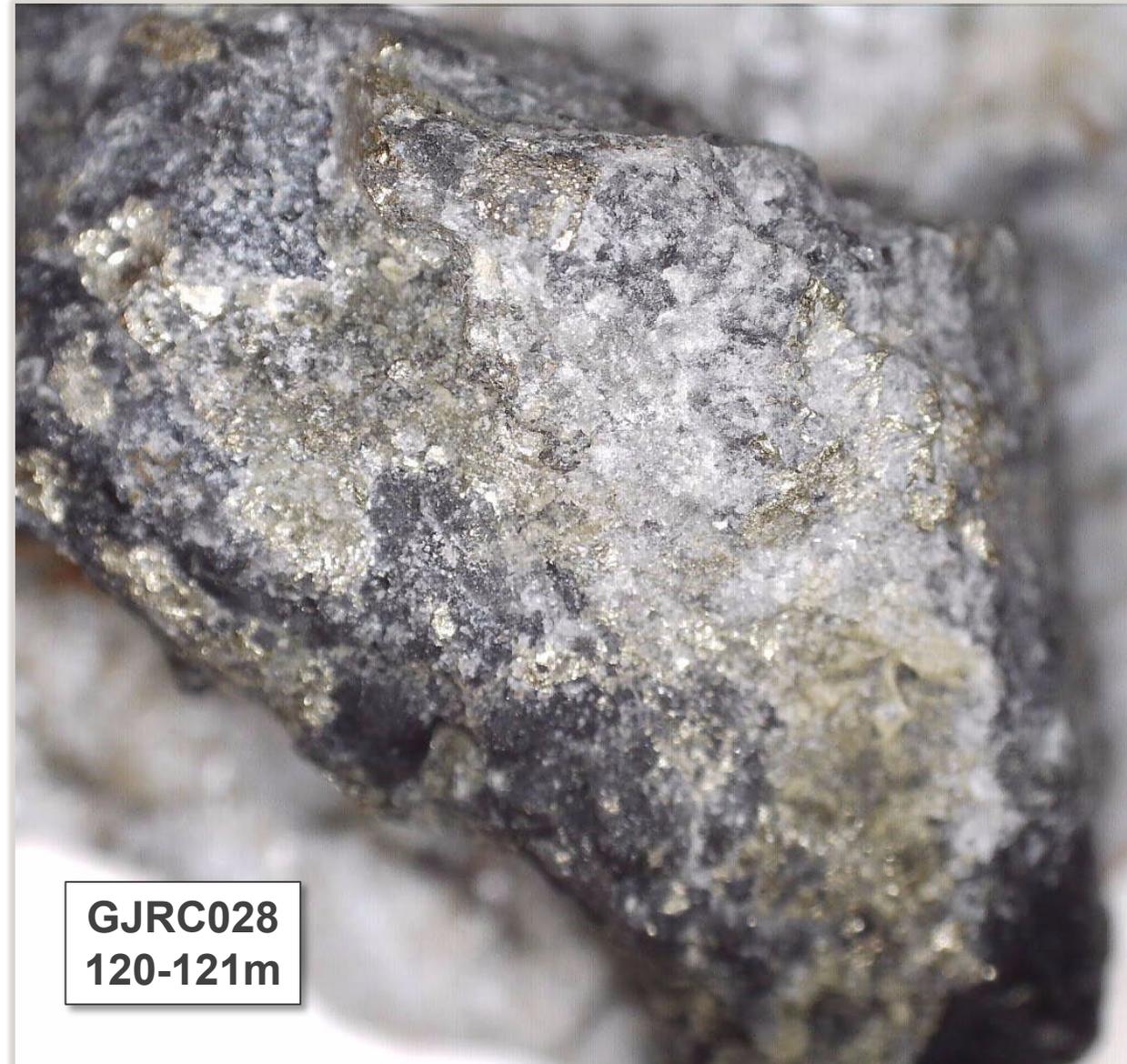
## Aircore drilling (2022)

- 1km long anomaly >1g/t Au - **open to NW**
- GJAC627 ended in **11.8 g/t Au** and **6g/t Ag**

## RC drilling (2024)

- Quartz-dolerite with abundant sulphides

## Further drilling planned



# Gidji JV – camp-scale gold

## Key ingredients for a new gold camp

### ✓ Prospective Geology

- Multiple gold deposits along strike (e.g. Paddington, Golden Ridge, Boorara)

### ✓ Structural Setting

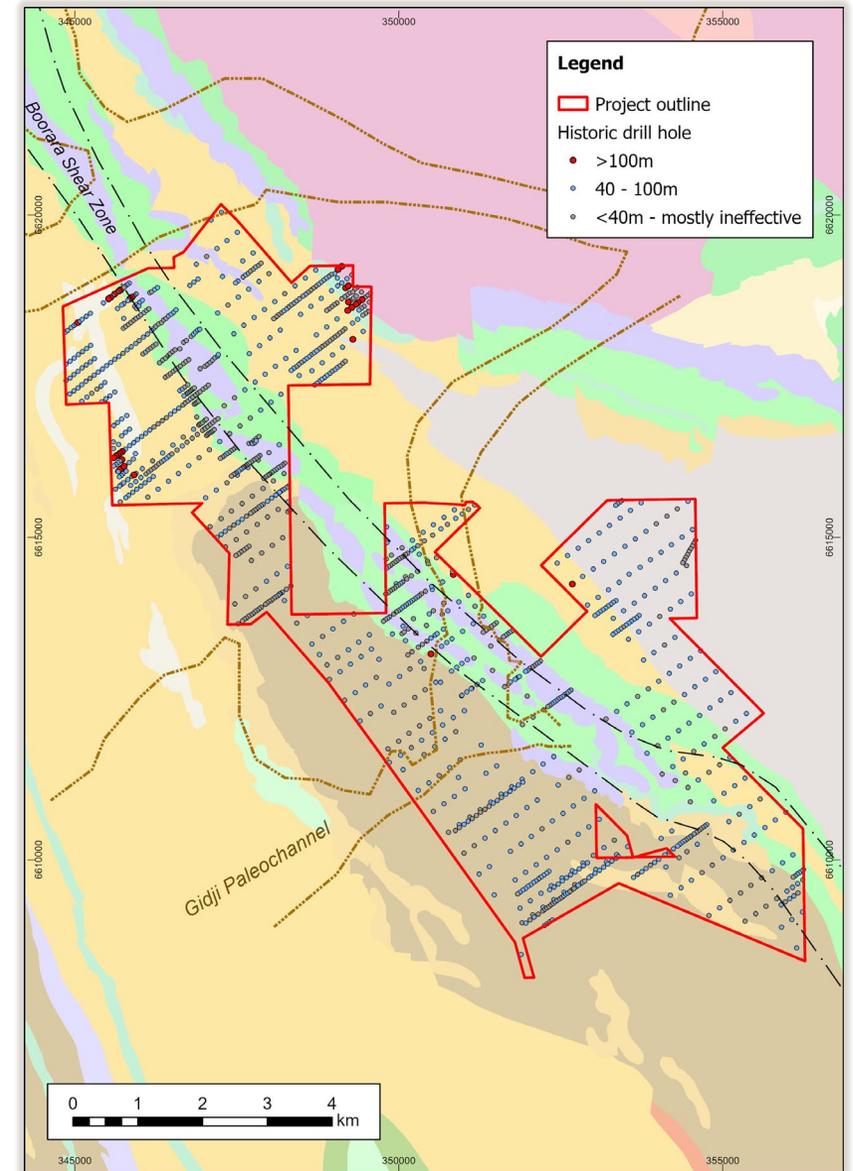
- Regional and second order structures
- Competency contrasts

### ✓ Underexplored

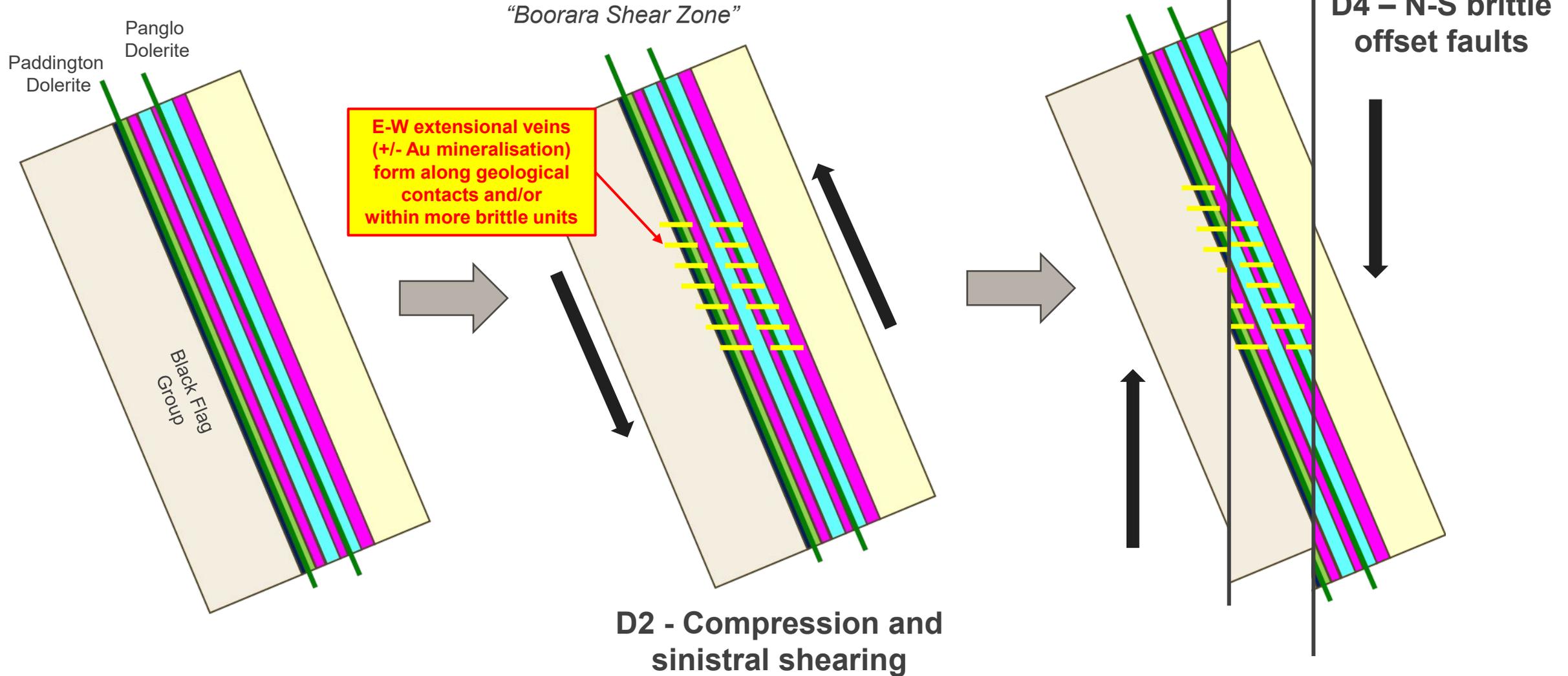
- Transported cover and paleochannel
- Minimal historic drilling >100m

### ✓ Evidence of gold mineralisation

- Widespread regolith Au anomalism
- Isolated bedrock intersections



# Gidji JV – gold exploration model



# Randall Fault Projects

Strategic 100% owned and underexplored land position on major structures

## Lake Yindarlgooda

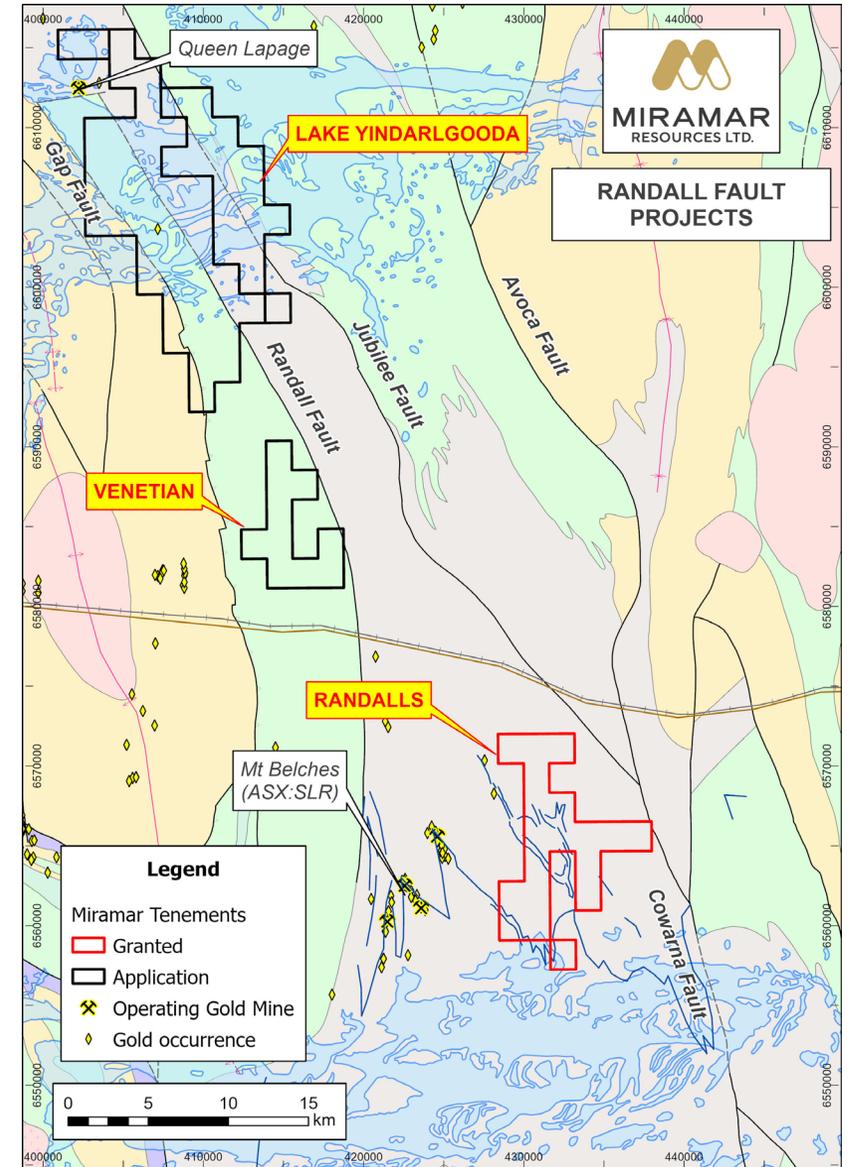
- 17km strike of major regional structures with multiple significant aircore intersections

## Venetian

- Sporadic historic RAB drilling

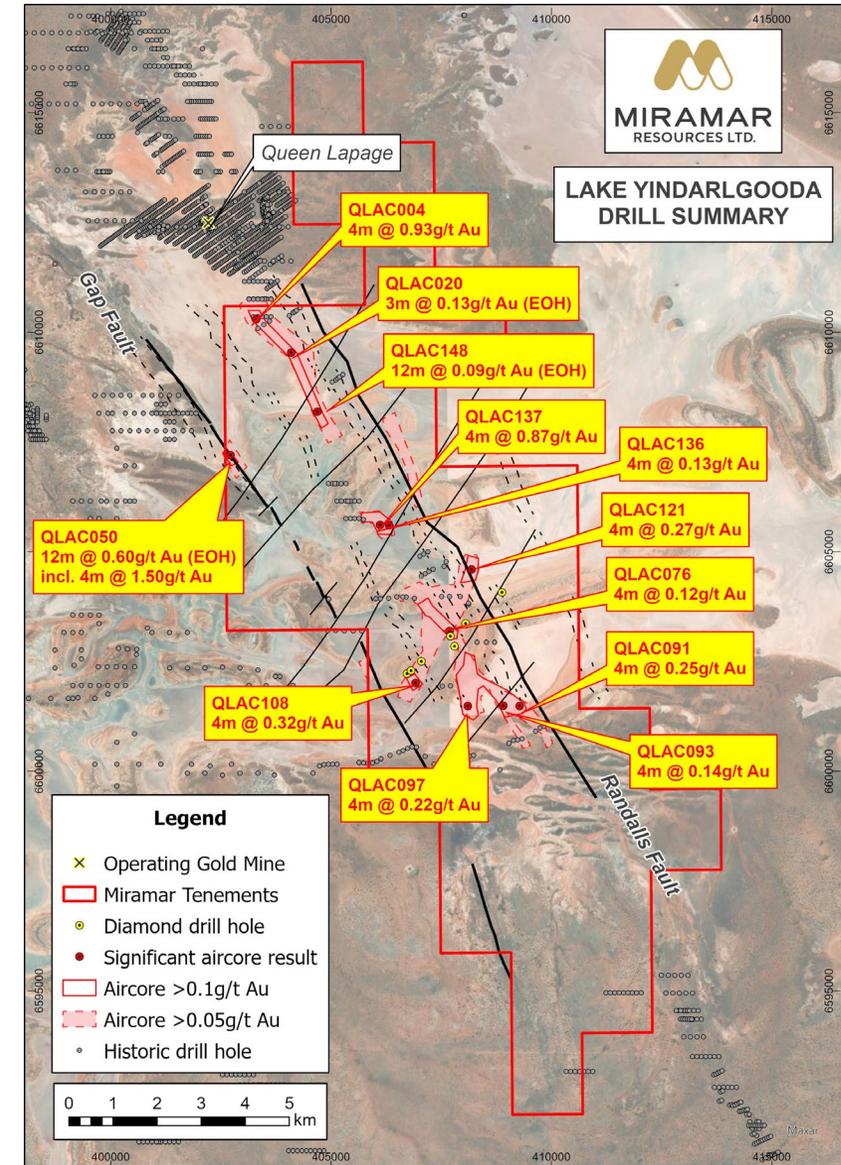
## Randalls

- Poorly drill tested BIF along strike from high-grade gold mines
- Confluence of major regional structures
- Lithium pegmatite potential (e.g. Bald Hill)



# Lake Yindarlgooda

- New applications cover **17km strike** of major regional structures
- **Multiple significant intersections** from wide-spaced aircore drilling on salt lake
- Similarities to **+2Moz Invincible** deposit
  - Major NNW trending regional structure
  - Mafic/sediment contacts
  - Multiple NE-trending faults
  - Regolith gold anomalism over 11km
- **No effective bedrock testing to date**





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# Bangemall

Exploring for large Ni-Cu-Co-PGE  
deposits

Ni

Cu

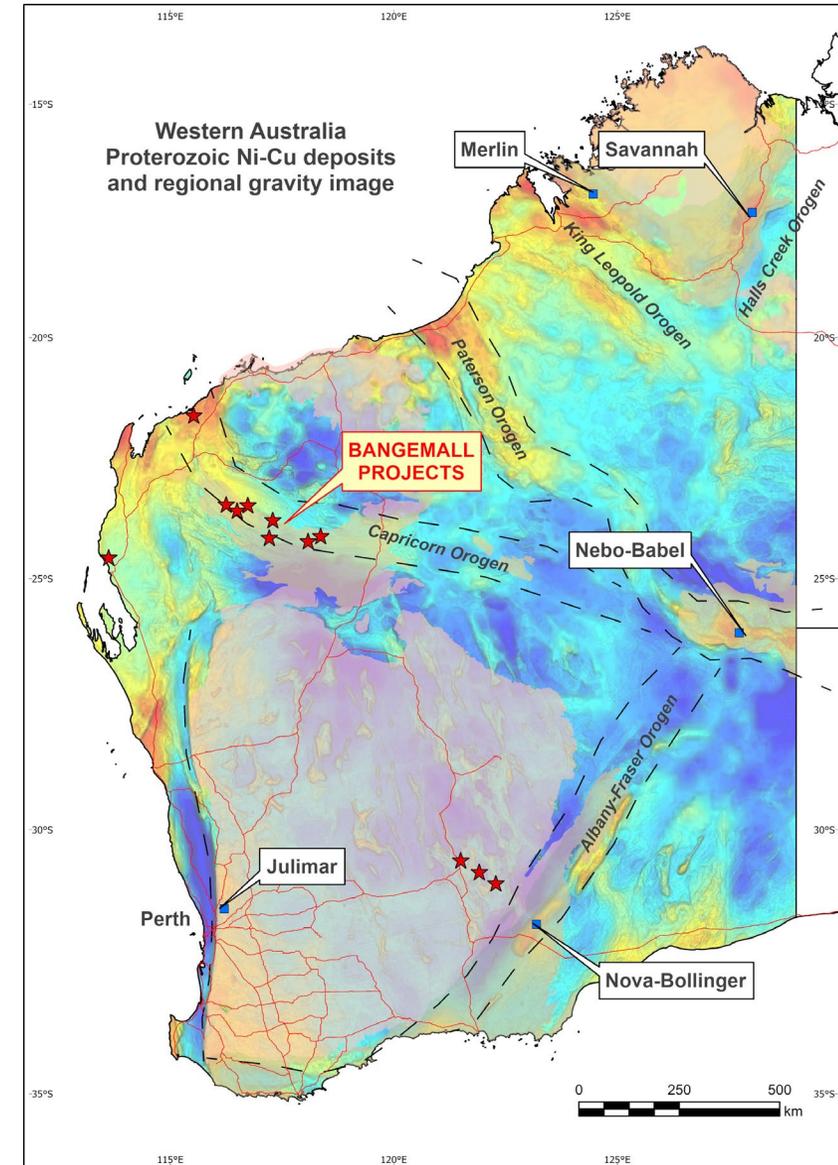


# Bangemall Projects

Miramar is exploring for large Ni-Cu-Co-PGE deposits in the Capricorn Orogen

Proterozoic orogens host large mafic intrusion-related Ni-Cu-Co-PGE deposits

- Nova-Bollinger
- Nebo-Babel
- Savannah
- Raglan
- Thompson
- Voisey Bay
- Jinchuan



# Not all nickel deposits are created equal...

## Mafic intrusion-hosted Ni-Cu-Co-PGE deposits are:

### ✓ Large

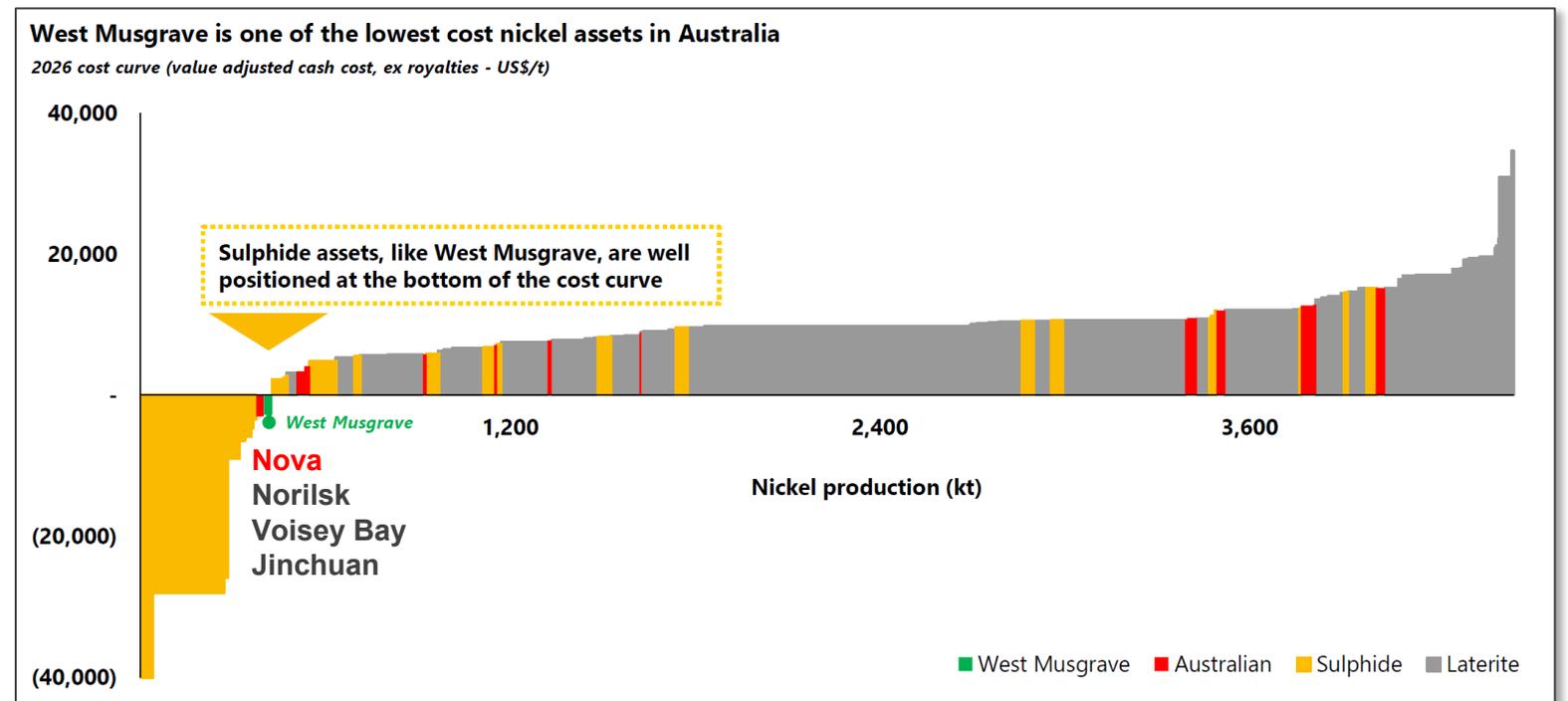
- 100's Mt to >1Bt of ore
- 0.1Mt to >1Mt of Nickel

### ✓ Valuable

- High-grade/tenor

### ✓ Low-cost

- High tonnes/vertical meter
- By-product credits



Source: OZ Minerals Sept 2022

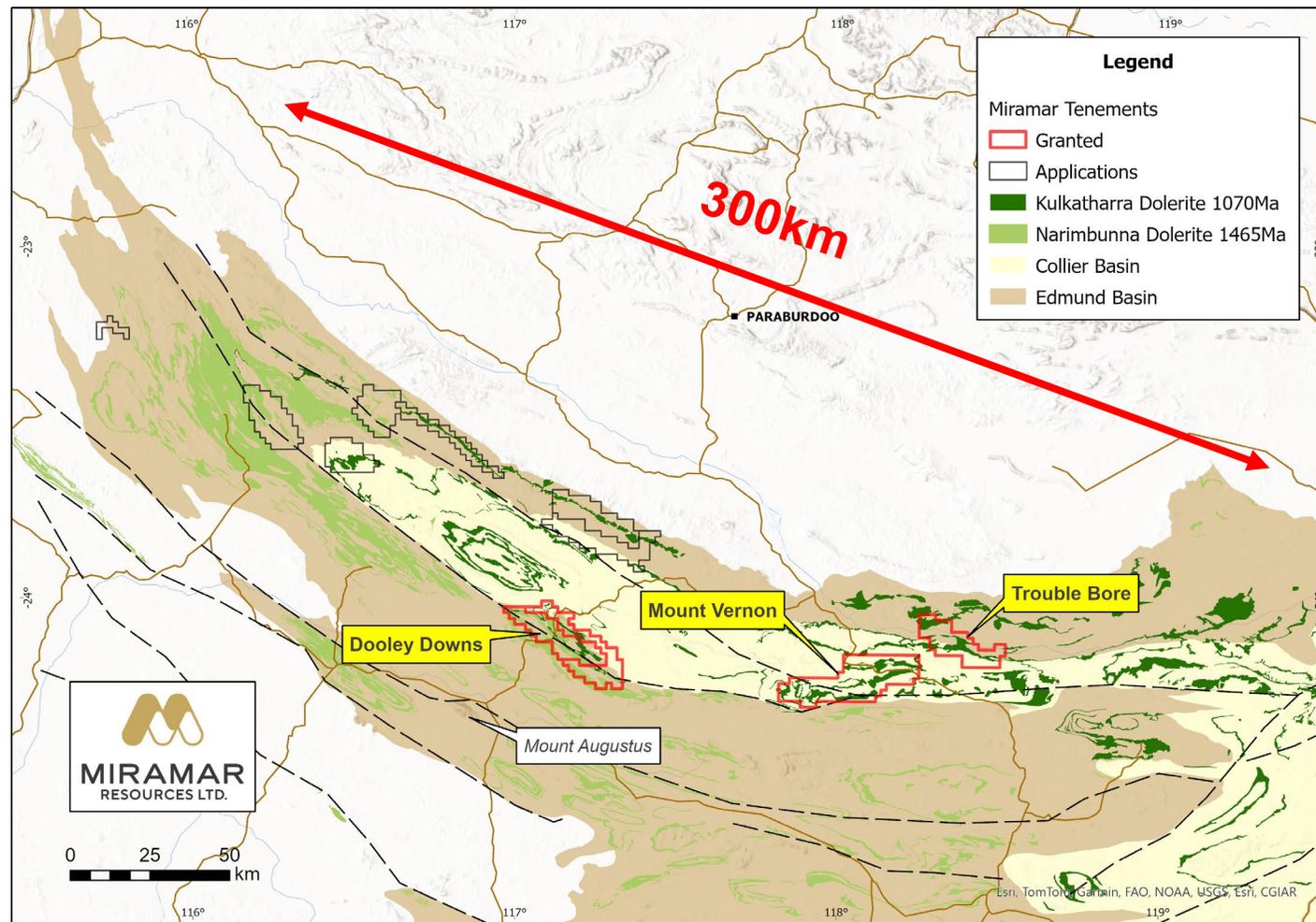
# Bangemall – a potential new Ni-Cu-Co province

## Strategic landholding

- 2,100km<sup>2</sup> of tenure
- 100% owned
- First mover status

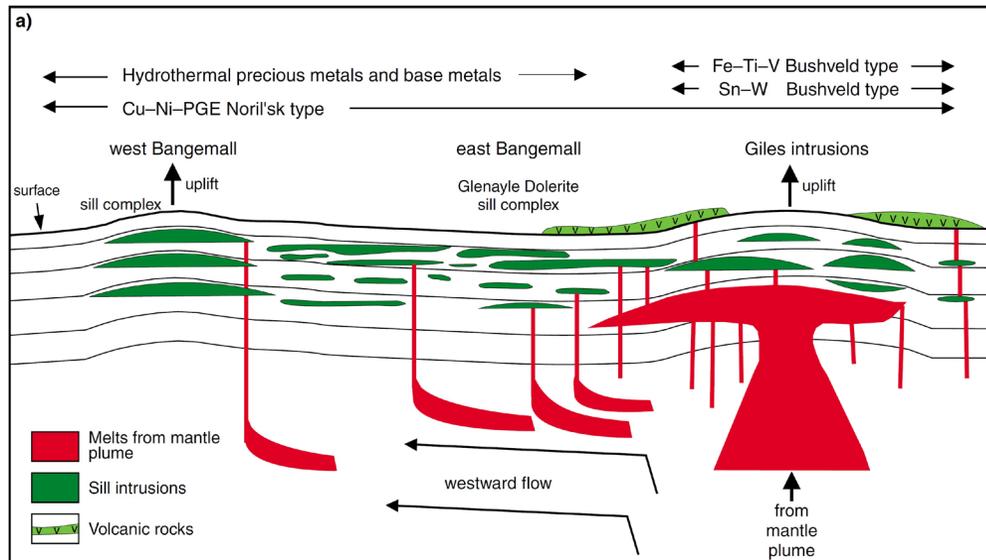
## Key ingredients for Norilsk-style Ni-Cu-Co-PGE's

- ✓ 1070Ma Kulkatharra Dolerite sills
- ✓ Major crustal-scale faults
- ✓ Sulphidic sediments and evaporites
- ✓ Regional-scale geochem and EM anomalies

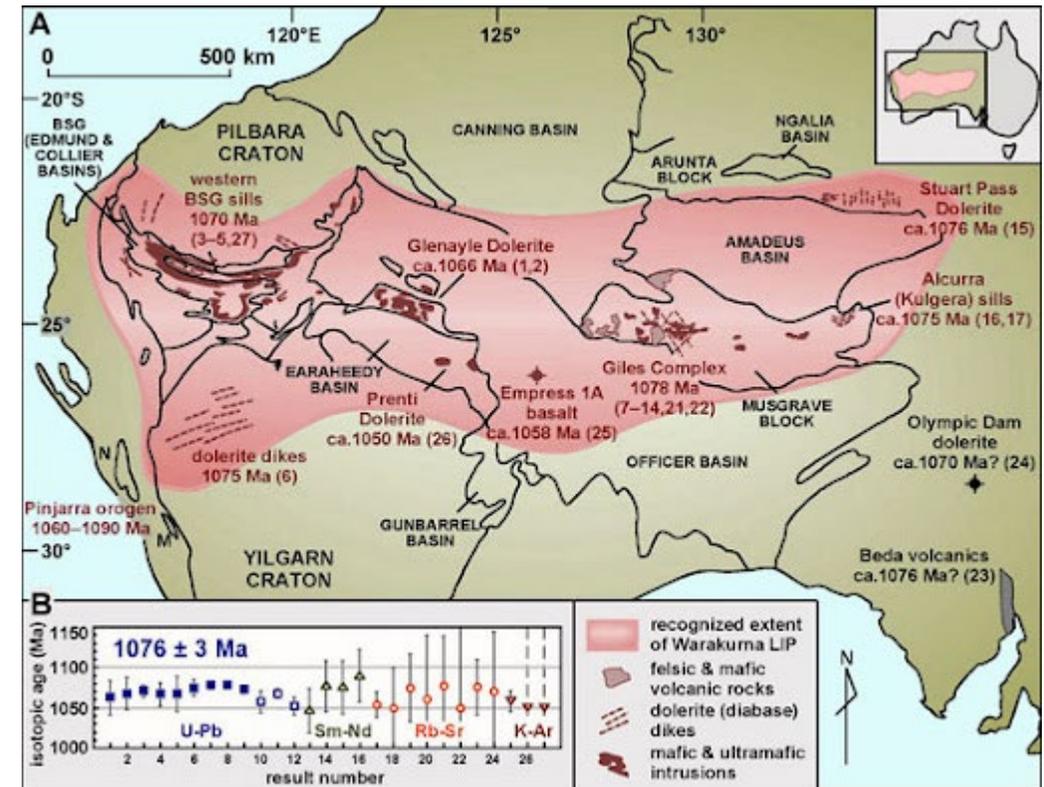


# Warakurna Large Igneous Province

- Continental-scale mafic magmatism event related to **1078-1070Ma** mantle plume
- Kulkatharra Dolerite** sills are the same age as Giles Complex (**Nebo-Babel deposits**)
- Ni-Cu-Co-PGE** prospectivity recognised by GSWA, CSIRO and Geoscience Australia



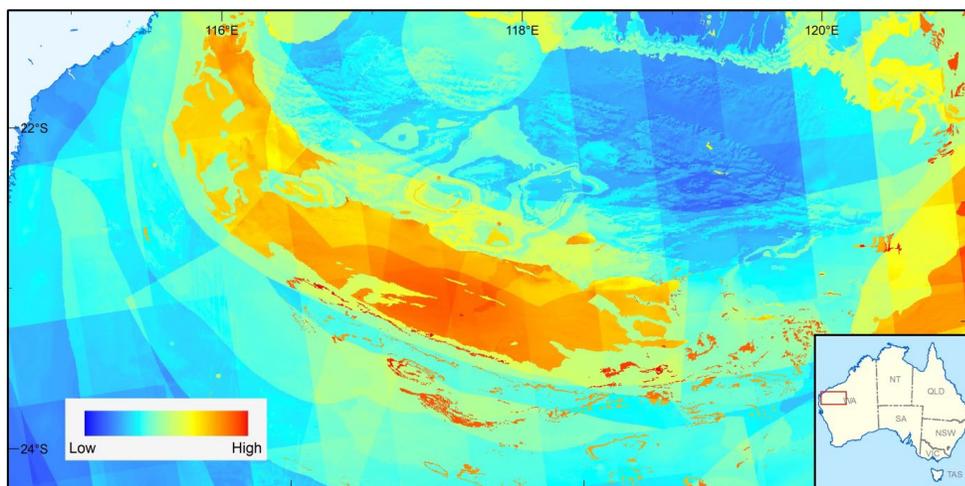
Morris and Pirajno, 2005



# Bangemall Ni-Cu prospectivity widely recognised

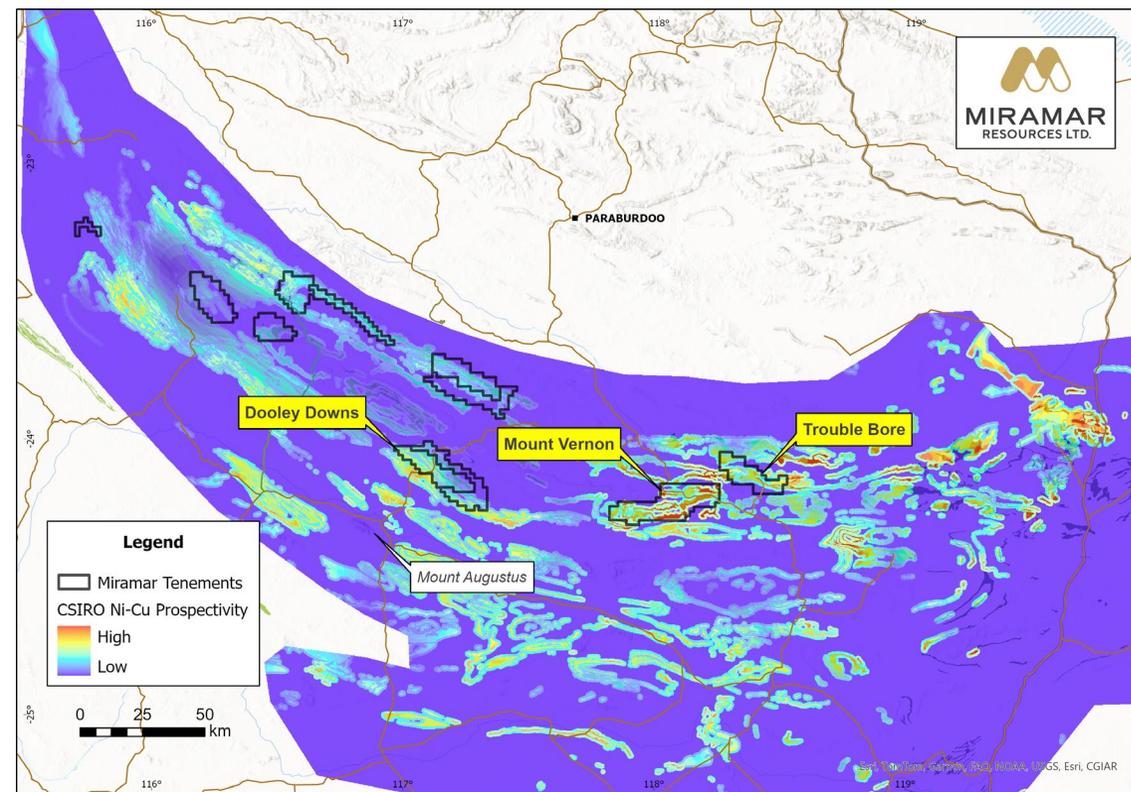
## GSWA Report 99 (2005):

- *“The Western Bangemall Supergroup with its thick mafic sill complex would be a prime target for Ni-Cu-PGE sulphides”*
- *“The Bangemall Supergroup is considered to be highly prospective for Norilsk-style Ni-PGE deposits in the sill complexes”*

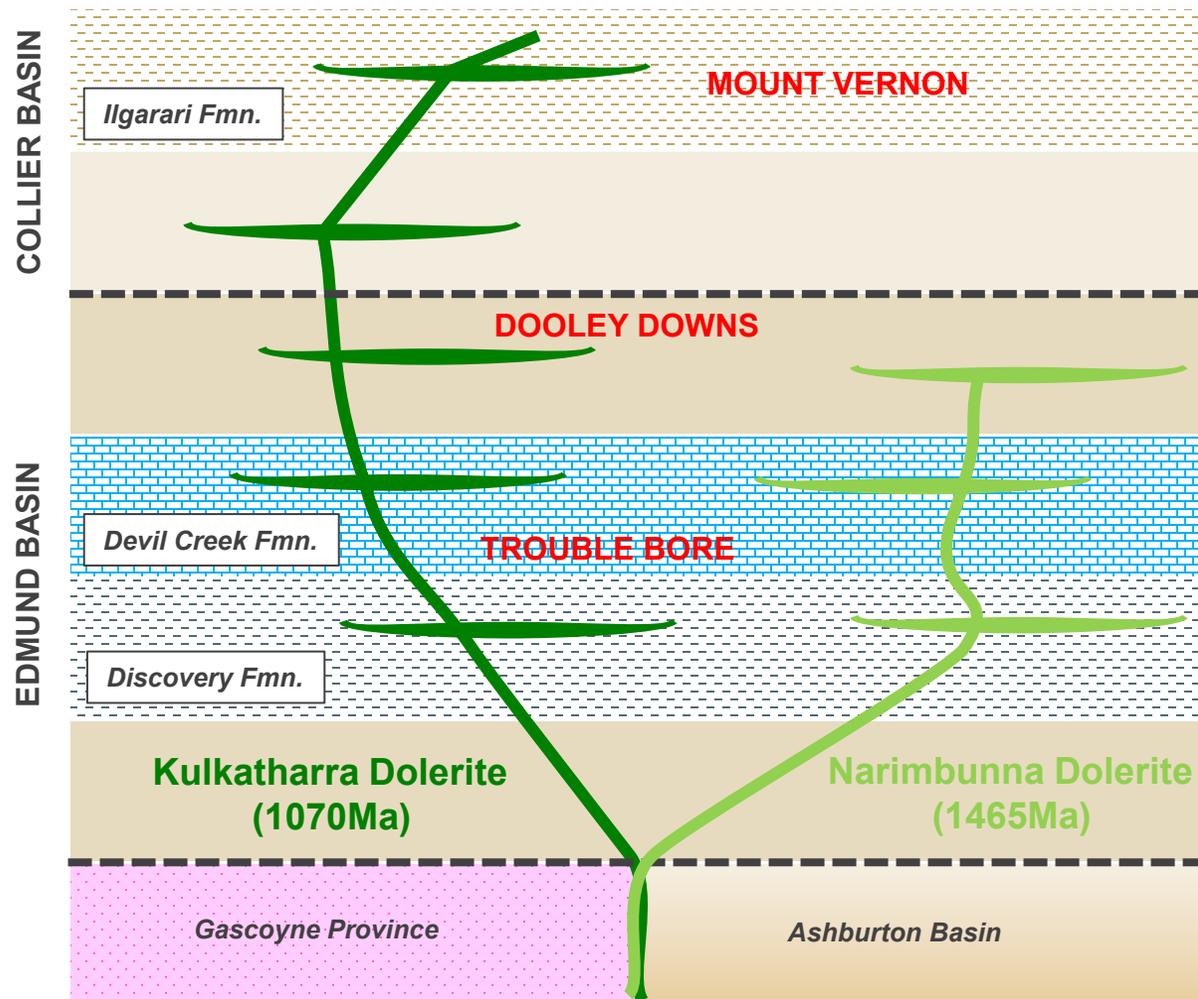


Geoscience Australia Record 2016/01

## CSIRO Ni-Cu Prospectivity Mapping



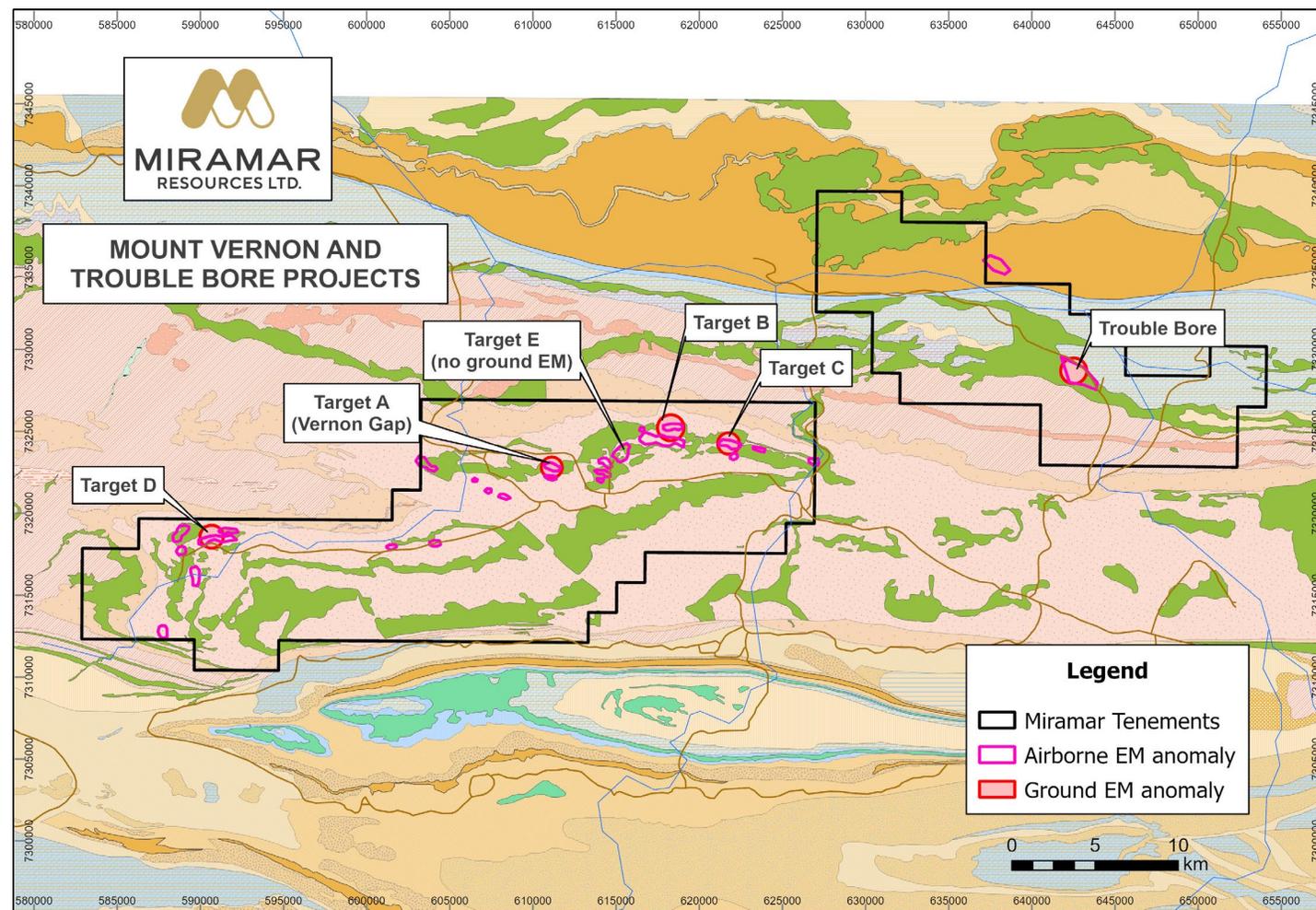
# Bangemall - Norilsk-style Ni-Cu-Co-PGE model



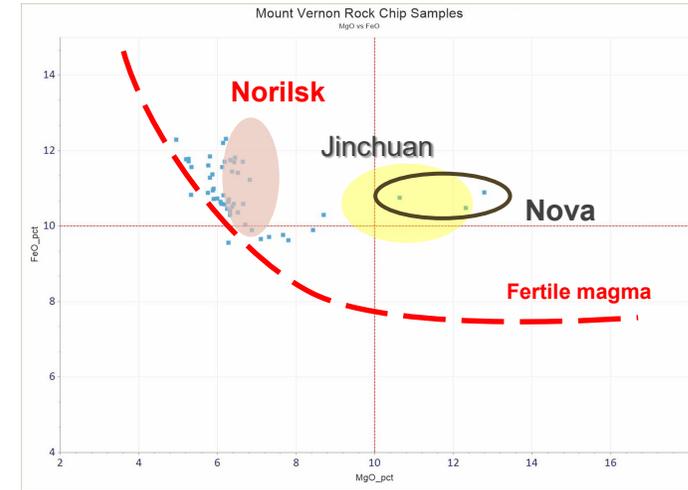
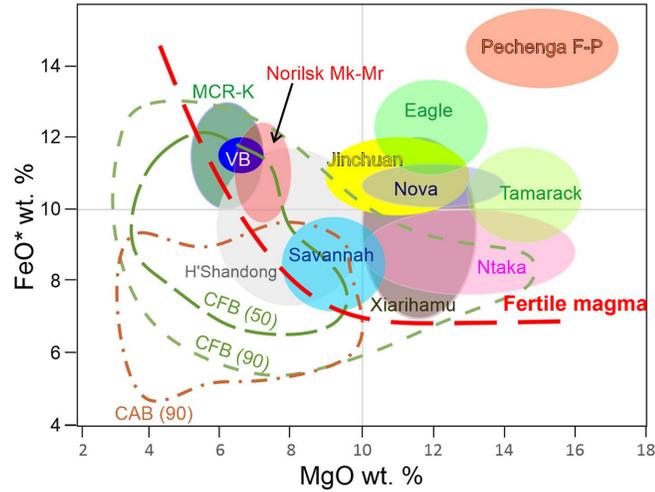
- Crustal-scale faults provide conduits for emplacement of **Ni-Cu-Co-PGE**-bearing dolerite sills/feeder dykes
- 1070Ma **Kulkatharra Dolerite** intrudes into **sulphidic** sediments and/or **evaporites**
  - Discovery Formation – **pyritic** siltstones and gypsiferous **evaporites**
  - Devil Creek Formation – stromatolitic and **pyritic** dolomite units
  - Ilgarari Formation – **pyritic** siltstone
- Looking for **Ni-Cu-Co-PGE** sulphides within/beneath **Kulkatharra Dolerite** sills

# Multiple high-priority drill targets defined

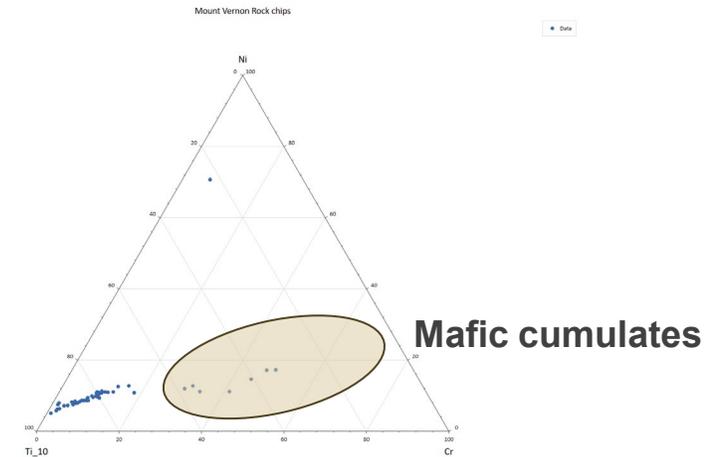
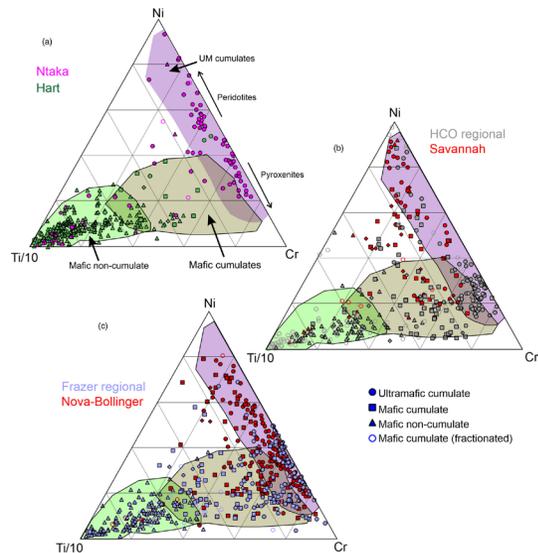
- **Kulkatharra Dolerite sills intrude into sulphidic sediments**
- Numerous geochemical indicators
- **Sulphides in outcrop**
- **Late-time VTEM anomalies**
- **Shallow ground EM conductors**
- **\$180K EIS funding for maiden RC drill program**



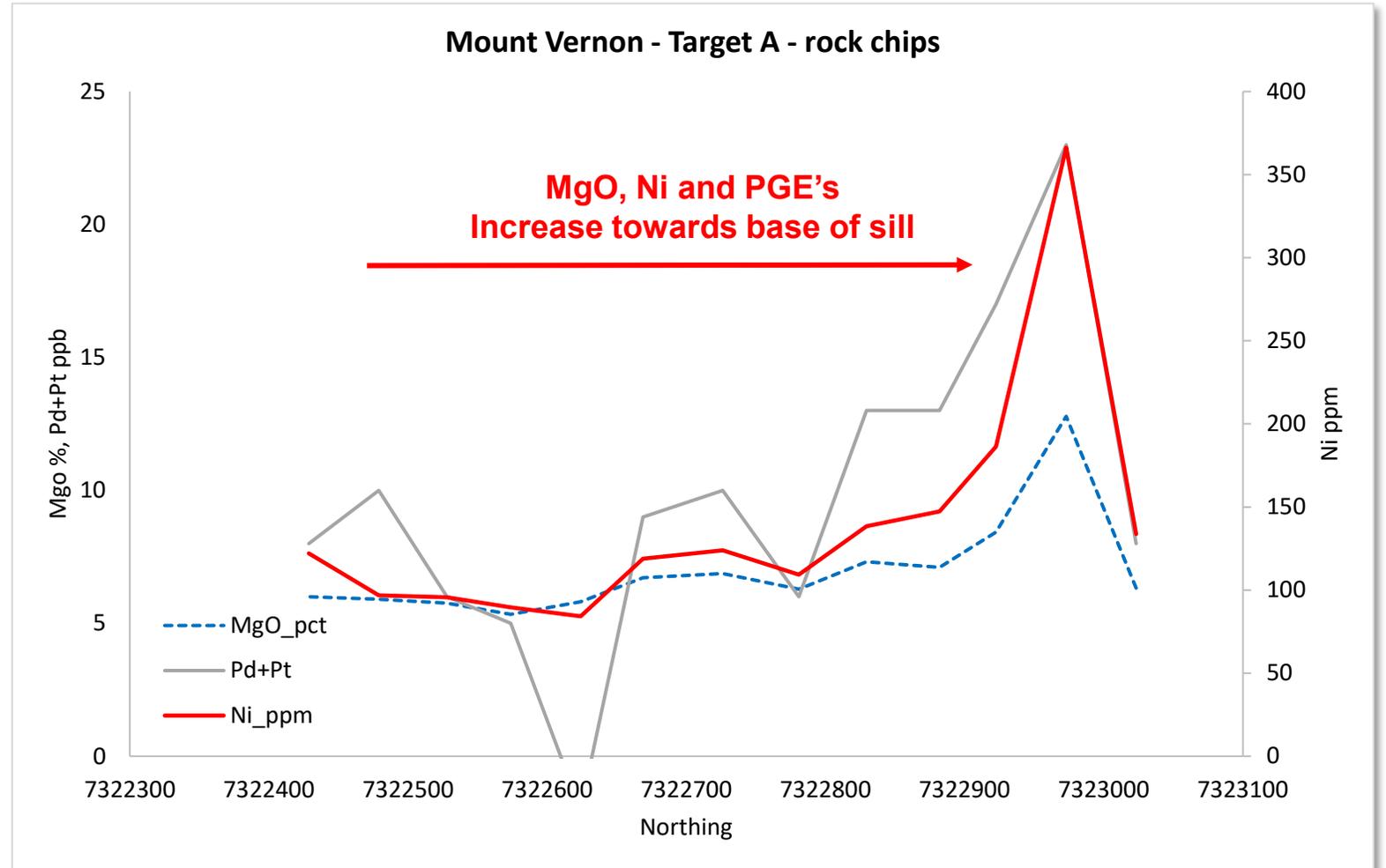
# Mount Vernon - fertile magma and cumulate rocks



Barnes 2022

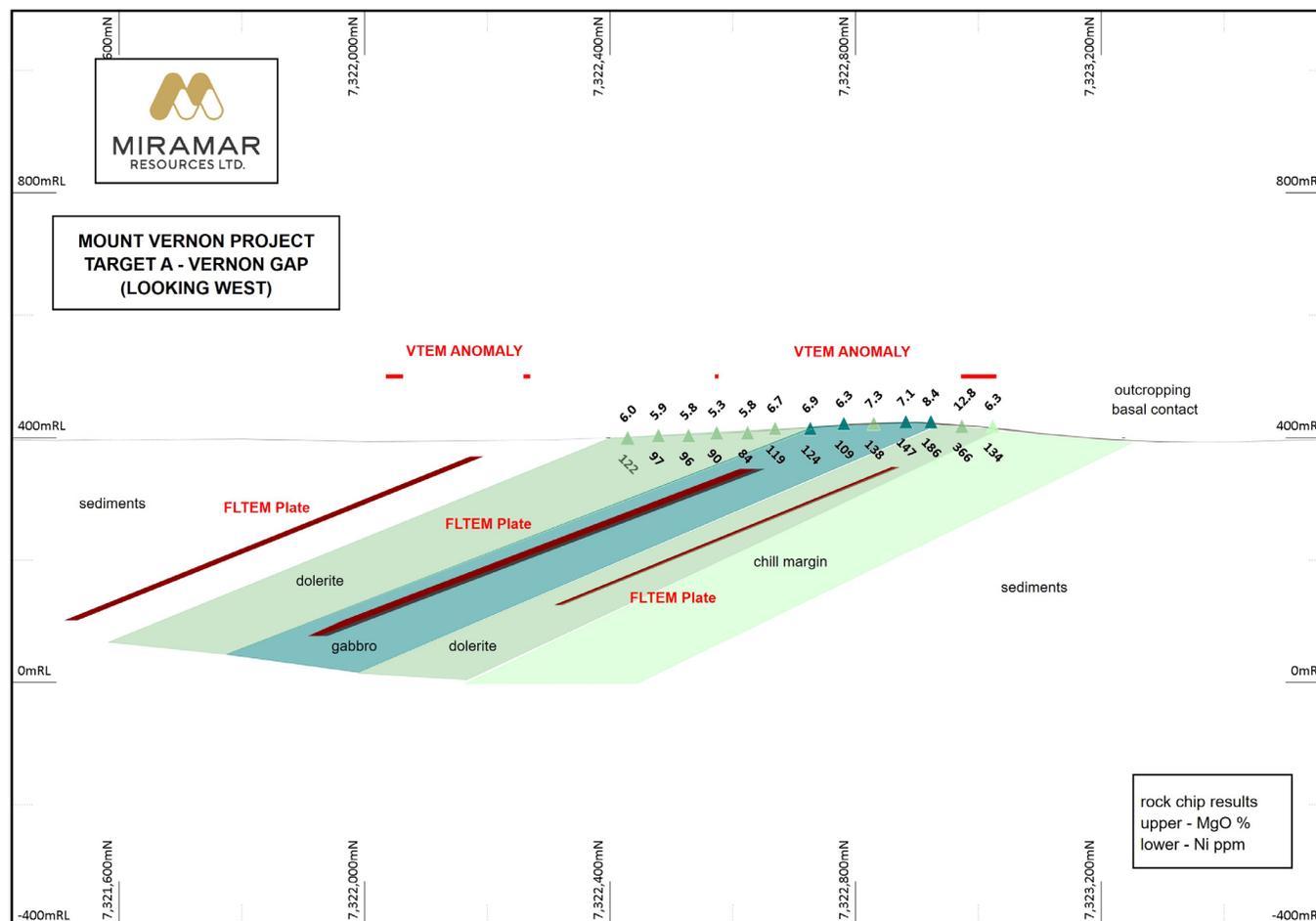


# Target A - evidence of differentiated sill

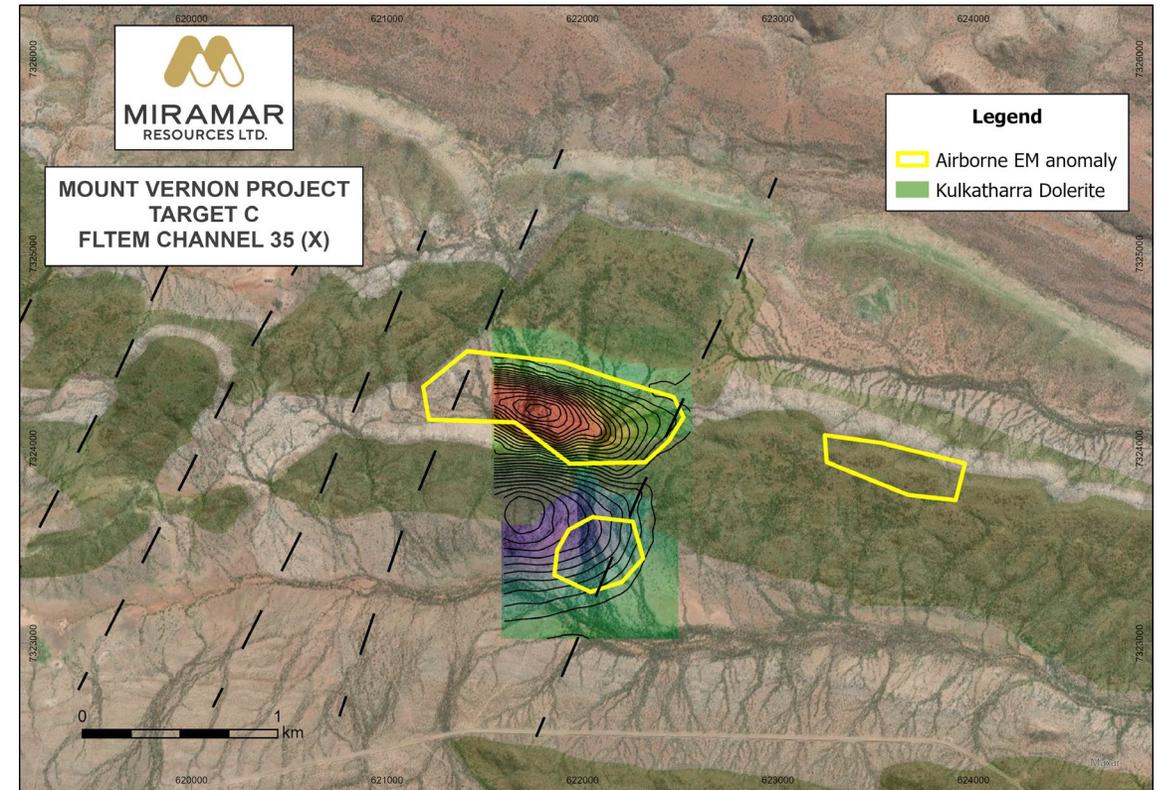
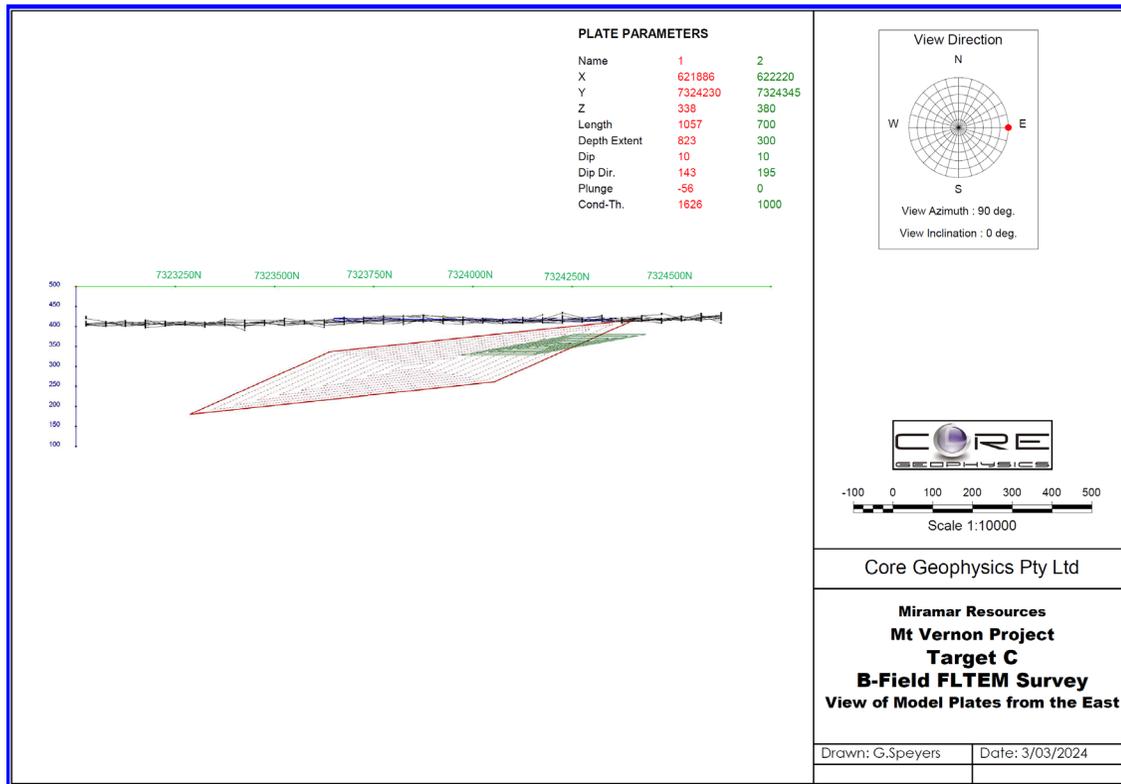


# Target A – EM conductors within differentiated sill

- Differentiated **Kulkatharra Dolerite sill**
- Elevated **Ni-Cu-PGE's** in rock chips
- Disseminated/patchy sulphides
- Ground EM survey identifies **multiple conductive plates**

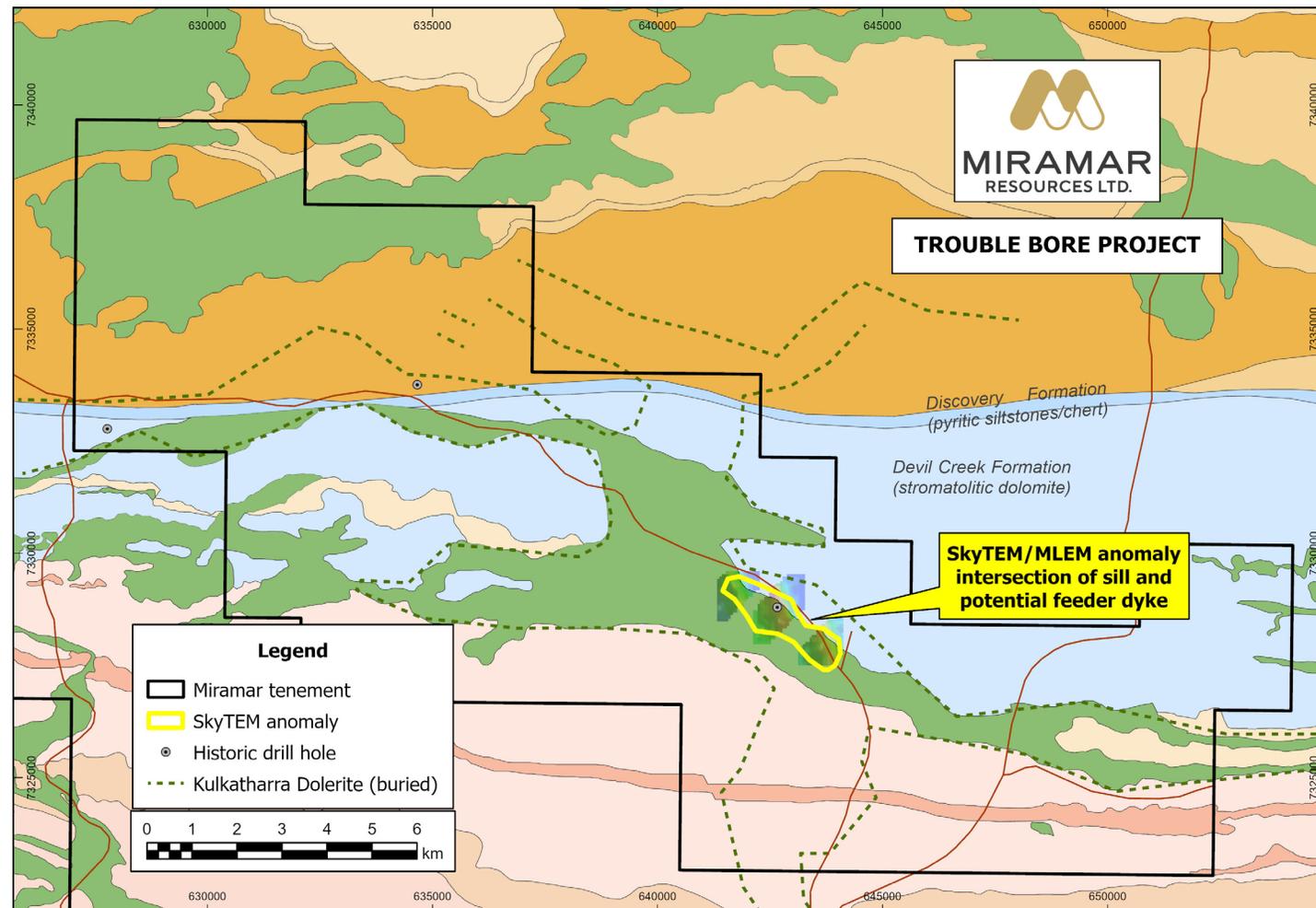


# Target C – strong shallow FLTEM conductor



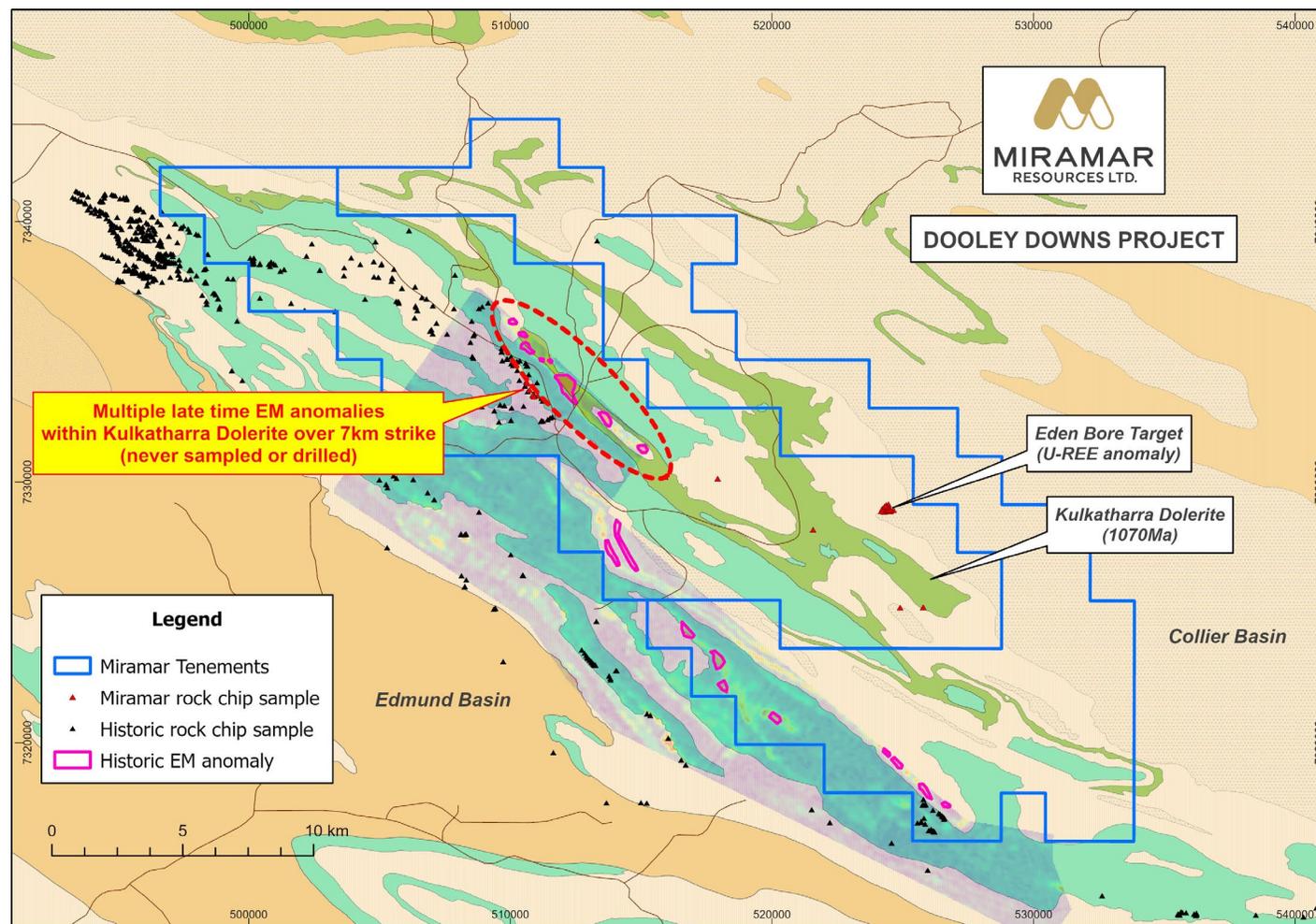
# Trouble Bore – potential feeder dyke

- **Kulkatharra Dolerite** intrudes into **sulphidic** and **evaporitic** sediments – e.g. similar to **Norilsk-Talnakh**
- **Late-time EM anomaly** under shallow cover at intersection of **dolerite sill** and **potential feeder dyke**
- Sampling and RC drilling planned



# Dooley Downs – multiple EM conductors

- Dolerite sills intruding into sulphidic sediments
- 1070Ma Kulkatharra Dolerite
- 1465Ma Narimbunna Dolerite
- Multiple late-time EM anomalies over 7km of strike
- Never sampled or drill tested





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# Whaleshark

Unique multi-commodity project

Cu

Au



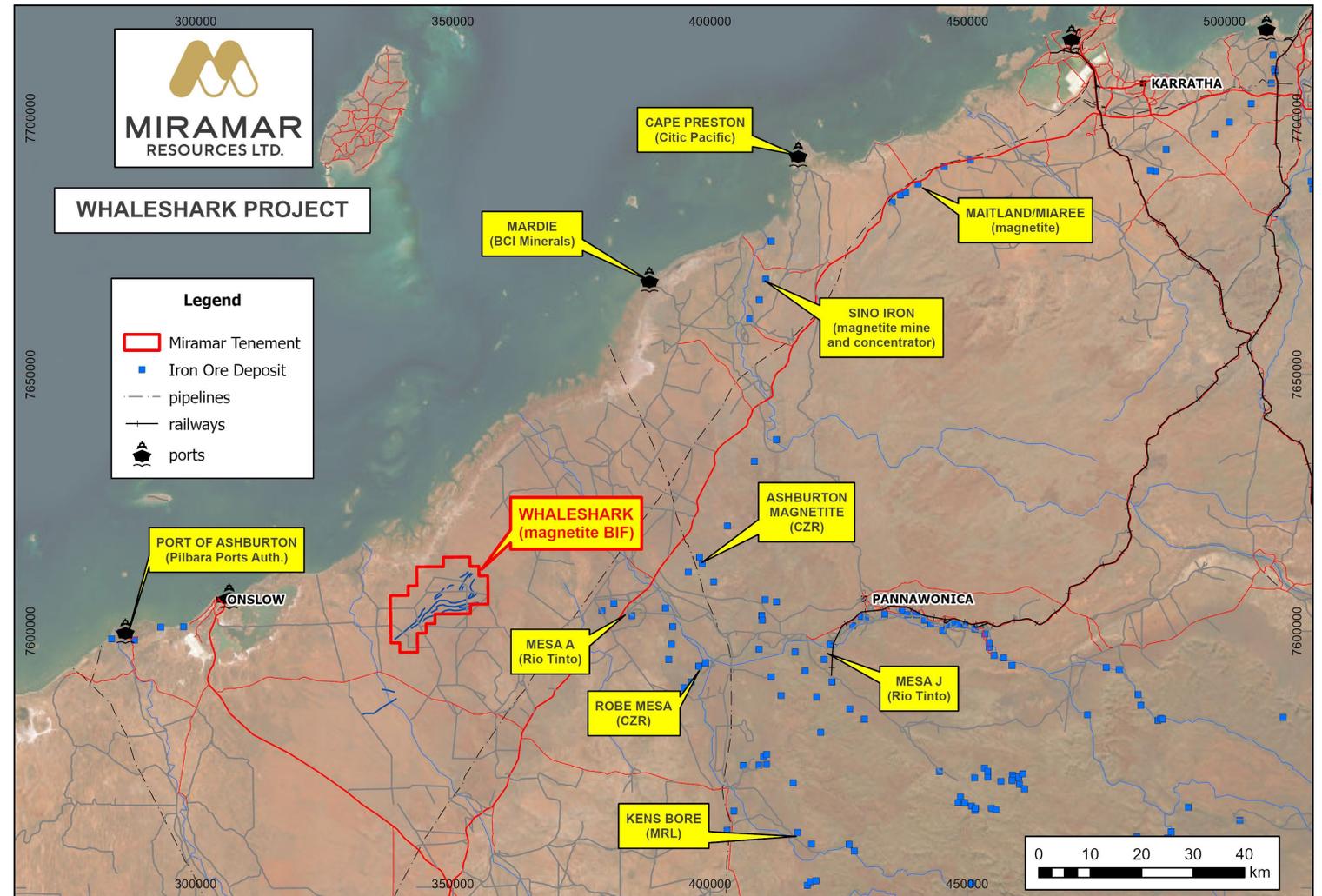
# Whaleshark

## Multi-commodity potential

- Banded Iron Formation and granodiorite under basin
- **Copper** and **Gold** mineralisation in basement
- Large **magnetite** iron targets

## Infrastructure-rich area

- Major highway
- Gas pipeline
- Port facilities
- Magnetite mine/concentrator



# Experienced Board with track record



**Allan Kelly**  
*Executive Chairman*

- 30 years' exploration-development-production experience
- **Founding MD, Doray Minerals Ltd (2009-2016)**
- **AMEC "Prospector" Award – 2014**



**Marion Bush**  
*Technical Director*

- 25 years' experience in exploration, management, directorship and marketing
- Former CEO, Cassidy Gold (TSX-V)



**Terry Gadenne**  
*Non-executive Director*

- 30 years' experience in military/civil aviation, agriculture and mining services
- Former MD - Mining Logic Pty Ltd



**Mindy Ku**  
*Company Secretary*

- 15 years' experience with public and private companies

ASX Code	M2R
Shares on Issue	186.1M
Listed Options (@ 25c)	59.7M
<b>Market Cap</b>	<b>\$1.9M</b>
Cash (Mar 24)	\$0.2M
<b>Enterprise Value</b>	<b>\$1.7M</b>

Major shareholders	%
XGS /Allorah (Kelly)	7.5
Claudio Della Franca	5.4
Faraday Investments	5.2
Buprestid Pty Ltd	5.1
<b><u>Top 20</u></b>	<b><u>46.8</u></b>

# Key Objectives for 2024

## Eastern Goldfields

- **Gidji JV**
  - Close off aircore gold anomalies
  - RC drilling of selected bedrock targets
- Progress Randall Fault tenements to grant

## Bangemall

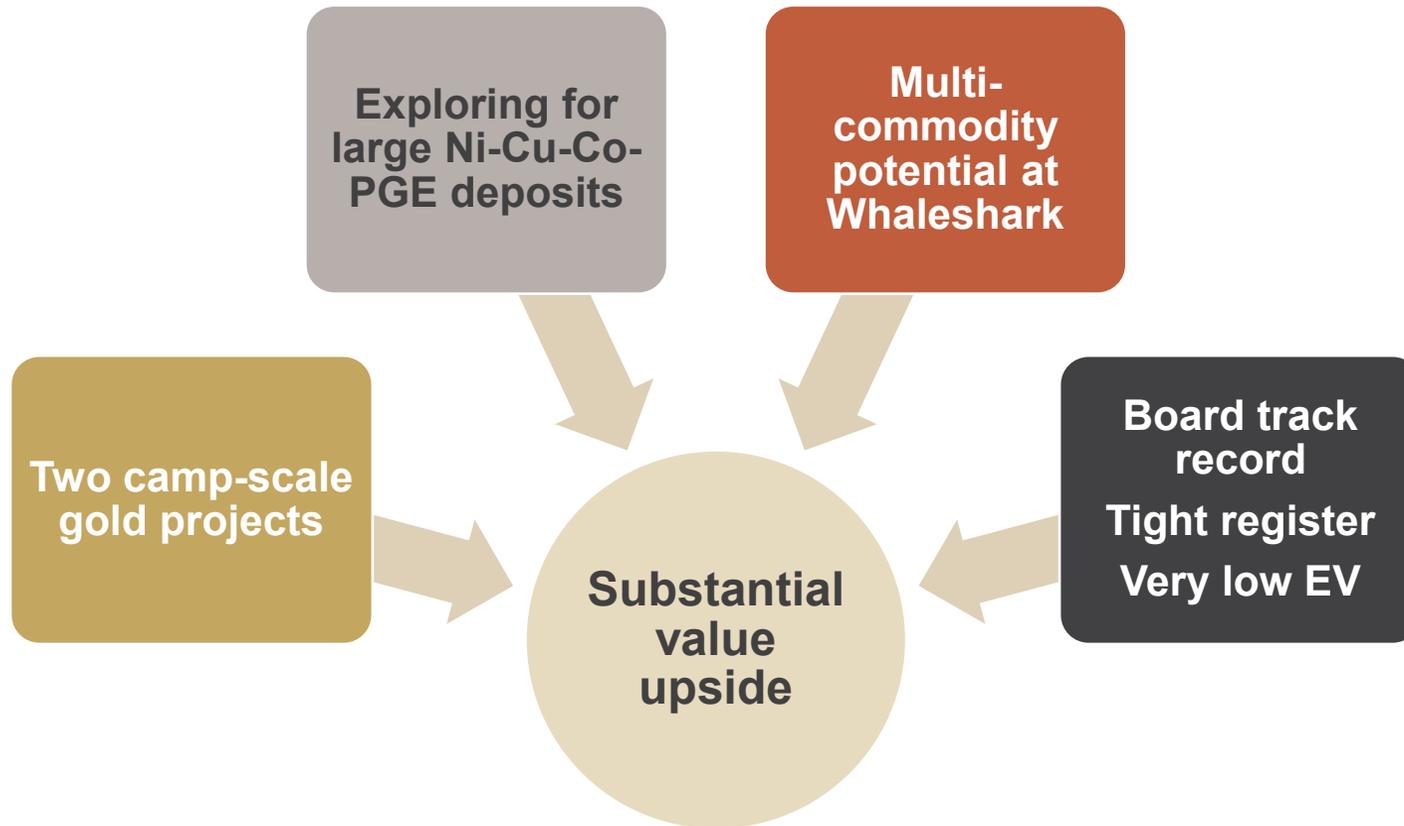
- Systematic rock chip sampling
- RC drilling at Mt Vernon/Trouble Bore (EIS co-funded)
- Grant of other tenements

## Whaleshark

- Map basement depth with passive seismic survey



# Why Invest in Miramar?





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