



TENNANT MINERALS

# Lessons from the Discovery of the **Bluebird Copper-Gold Deposit**

Tennant Creek Mineral Field, NT, Australia

ASX:TMS | AGES – RESOURCING THE TERRITORY | 17 April 2024

# Cautionary Statements and Competent Persons Declaration

## CAUTIONARY STATEMENT REGARDING FORWARD LOOKING INFORMATION

This presentation contains forward-looking statements concerning Tennant Minerals Ltd. Forward-looking statements are not statements of historical fact and actual events and results may differ materially from those described in the forward-looking statements as a result of a variety of risks, uncertainties and other factors. Forward-looking statements are inherently subject to business, economic, competitive, political and social uncertainties and contingencies. Many factors could cause the Company's actual results to differ materially from those expressed or implied in any forward-looking information provided by the Company, or on behalf of, the Company. Such factors include, among other things, risks relating to additional funding requirements, metal prices, exploration, development and operating risks, competition, production risks, regulatory restrictions, including environmental regulation and liability and potential title disputes.

Forward looking statements in this release are based on the company's beliefs, opinions and estimates of Tennant Minerals Ltd as of the dates the forward-looking statements are made, and no obligation is assumed to update forward looking statements if these beliefs, opinions and estimates should change or to reflect other future developments.

## COMPETENT PERSONS DECLARATION

The information in this report that relates to exploration results is based on information compiled and/or reviewed by Mr Chris Ramsay. Mr Ramsay is the General Manager of Geology at Tennant Minerals Ltd and a Member of the Australian Institute of Mining and Metallurgy ('MAusIMM'). Mr Ramsay has sufficient experience, including over 25 years' experience in exploration, resource evaluation, mine geology, and development studies, relevant to the style of mineralisation and type of deposits under consideration to qualify as a Competent Person as defined in the 2012 Edition of the Joint Ore Reserves Committee ('JORC') Australasian Code for Reporting of Exploration Results, Minerals Resources and Ore Reserves. Mr Ramsay consents to the inclusion in this report of the matters based on this information in the form and context in which it appears.

## ASX LISTING RULES COMPLIANCE

In preparing this presentation the Company has relied on the announcements previously made by the Company that are referenced below the first mention of the information. The Company confirms that it is not aware of any new information or data that materially affects those announcements previously made, or that would materially affect the Company from relying on those announcements for the purpose of this announcement.

# Barkly Project and the Bluebird Cu-Au Discovery

## World-Class Location

The Barkly Project and the **Bluebird** discovery are located 40km east of Tennant Creek at the eastern end of this major copper-gold field, which has produced **5.5Moz of gold and 700kt of copper**<sup>1</sup>.



**Bluebird is a green-fields, high-grade copper-gold discovery in an area of shallow cover**



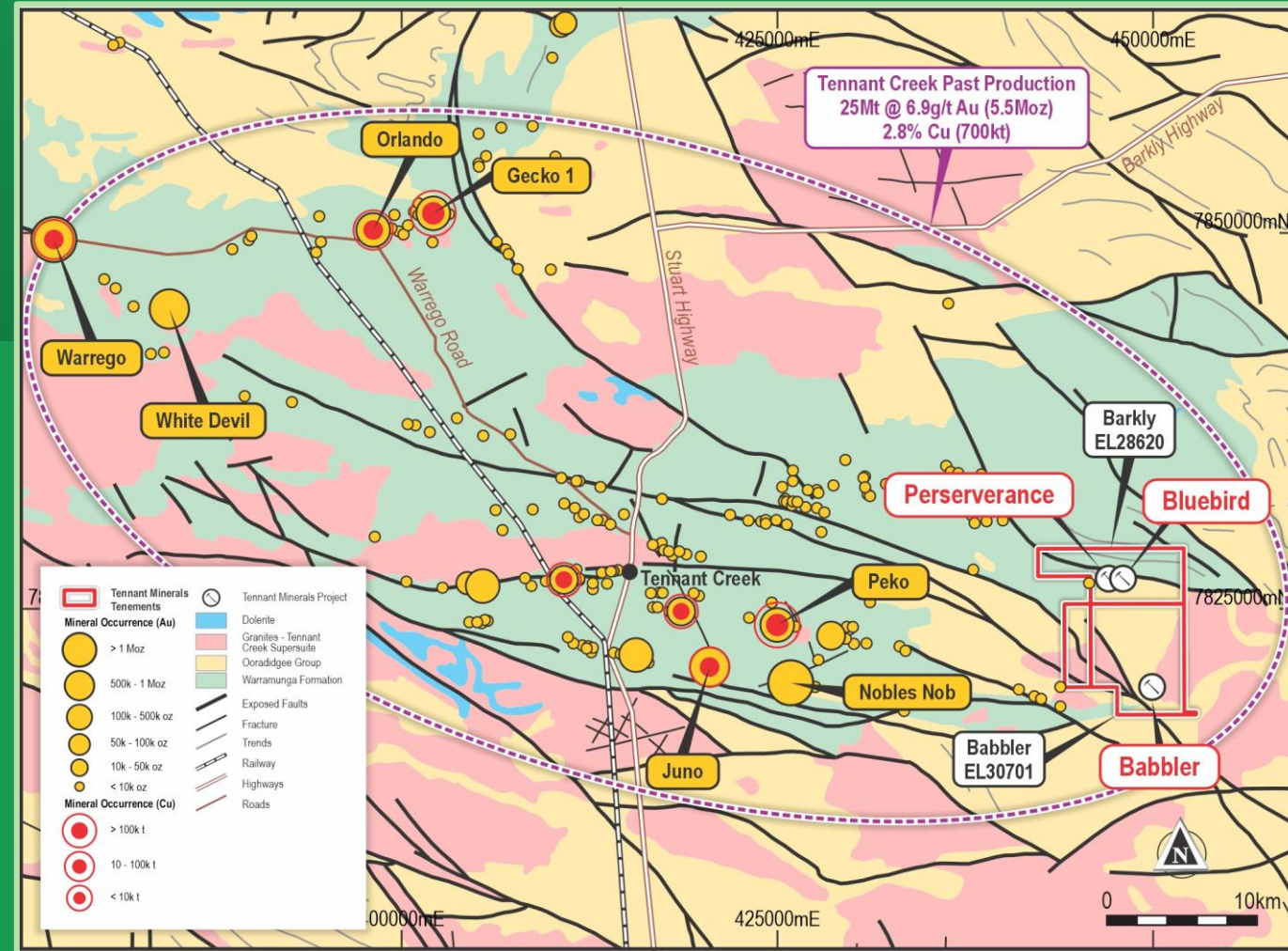
Bluebird has **identified upside potential to rival major high-grade Cu-Au deposits** at Tennant Creek e.g. **Warrego (6.75Mt @ 6.6 g/t Au, 1.9% Cu)**<sup>1</sup> and **Peko (3.7Mt @ 4% Cu, 3.5 g/t Au)**<sup>1</sup>.



**Bluebird geology similar to these previously mined major deposits** - being hosted by altered and mineralised ironstone with intense hematite alteration in the Warramunga Formation.



**Intensive exploration and development activity in the region points to revival of this world-class mineral field** - led by TMS.



<sup>1</sup> Portergeo.com.au/database/mineinfo. Tennant Creek - Gecko, Warrego, White Devil, Nobles Nob, Juno, Peko, Argo.

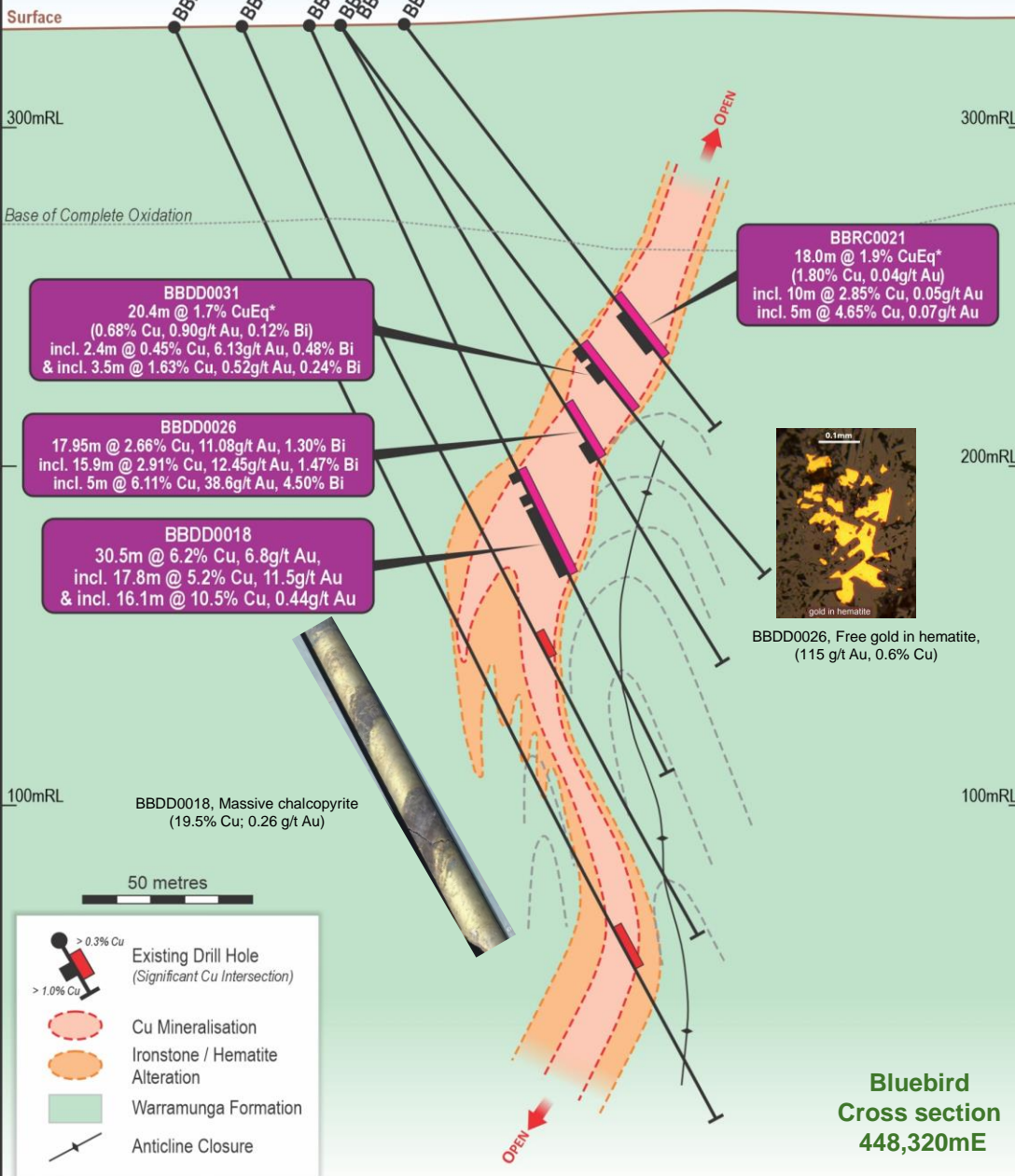


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# The Bluebird Copper-Gold Discovery



- Blind discovery under shallow soil cover and weathered Warramunga Formation sedimentary rocks hosted in mineralised ironstone.
- The main discovery was made through follow-up of shallow drilling and drill-testing the entire ironstone (e.g. BBDD0012: 63m @ 2.1% Cu, 4.6 g/t Au<sup>2</sup>, BBDD0018: 30.5m @ 6.2% Cu, 6.8 g/t Au<sup>3</sup>).
- High-grade copper and gold mineralisation hosted by deformed and hematite altered ironstone where structure dilates across fold axes<sup>4</sup>.
- Thick, high-grade, copper-gold-bismuth mineralisation associated with Second Hydrothermal Event<sup>3</sup> into the dilational zones<sup>5</sup>.
- Mineralisation includes free gold with intense hematite and/or chlorite alteration and primary and/or secondary copper sulphides (including chalcocite, chalcopyrite and native copper). Metallurgical (gravity and flotation) testing results pending.

<sup>2</sup> 17/08/2022. Tennant Minerals (ASX. TMS): "Bonanza 63m @ 2.1% Copper and 4.6 g/t Gold Intersection at Bluebird".

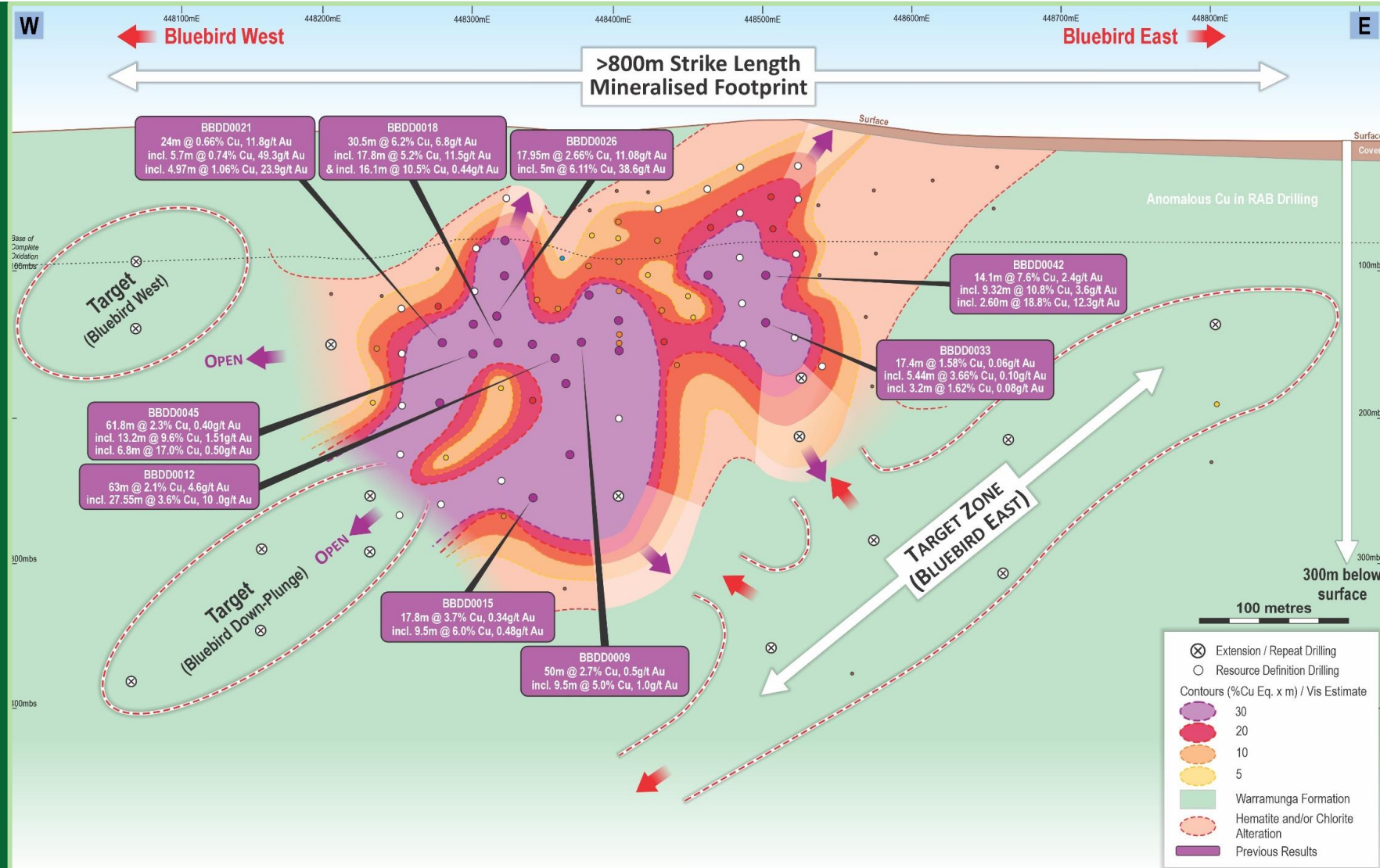
<sup>3</sup> 08/02/2023. "Spectacular Drill Hit 30.5m @ 6.2% Cu, 6.8 g/t Au".

<sup>4</sup> Huston DL, Bolger C and Cozens G, 1993. A comparison of mineral deposits at the Geko and White Devil deposits: implications for ore genesis in the Tennant Creek District, Northern Territory, Australia. *Economic Geology* 88, 1198–1225.

<sup>5</sup> Donnellan N, 2013. Chapter 9 - Warramunga Province: in Ahmad M. and Munson T.J. (compilers). 'Geology and mineral resources of the Northern Territory.' Northern Territory Geological Survey, Special Publication 5.

# Bluebird Longitudinal View – 800m footprint, open all directions

- Drilling to date has defined **high-grade copper-gold mineralisation** from 60m to over 300m depth, over 500m strike length – open in all directions<sup>6</sup>.
- Recent intersections confirm previous high-grade copper-gold intersections and include:
  - 61.8m @ 2.3% Cu, 0.4 g/t Au<sup>7</sup>
  - 17.95m @ 11.1 g/t Au, 2.7% Cu<sup>8</sup>
  - 14.1m @ 7.6% Cu, 2.4 g/t Au<sup>9</sup>
- New drilling in final planning to focus on open extensions and repeats of the high-grade copper-gold mineralisation.
- Objective to define a **substantial high-grade copper-gold Mineral Resource** suitable to support standalone operation.



<sup>6</sup> 22/01/2024. "New Copper Intersection Extends Bluebird Over 400m Depth".

<sup>7</sup> 12/02/2024. "Exceptional 61.8m @ 2.3% Copper Intersection at Bluebird".

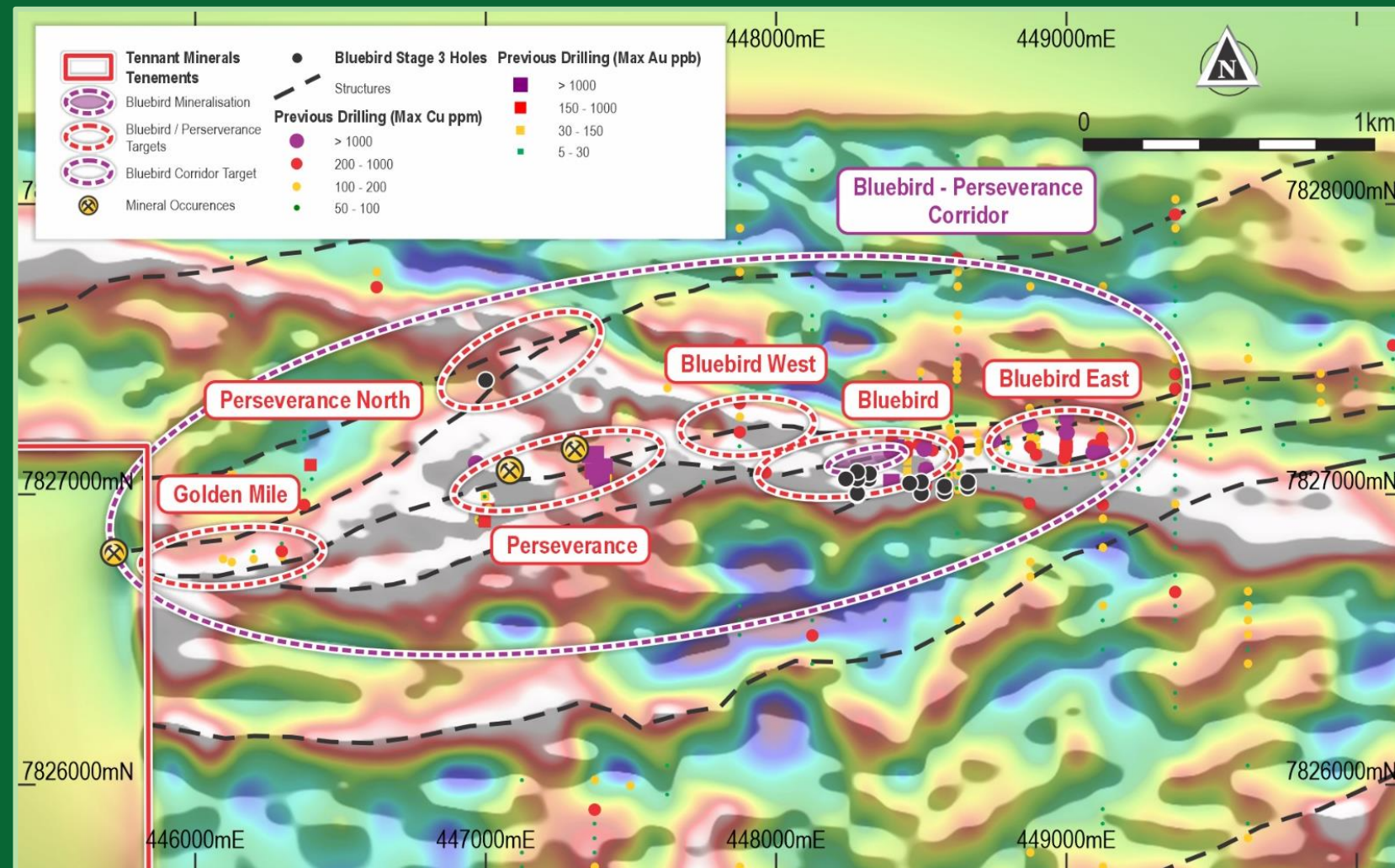
<sup>8</sup> 9/07/2023. Tennant Minerals (ASX.TMS): "Drilling Doubles Strike Length of Bluebird copper-Gold discovery".

<sup>9</sup> 04/12/2023. Tennant Minerals (ASX.TMS): "Exceptional Copper and Gold Results at Bluebird Extension".

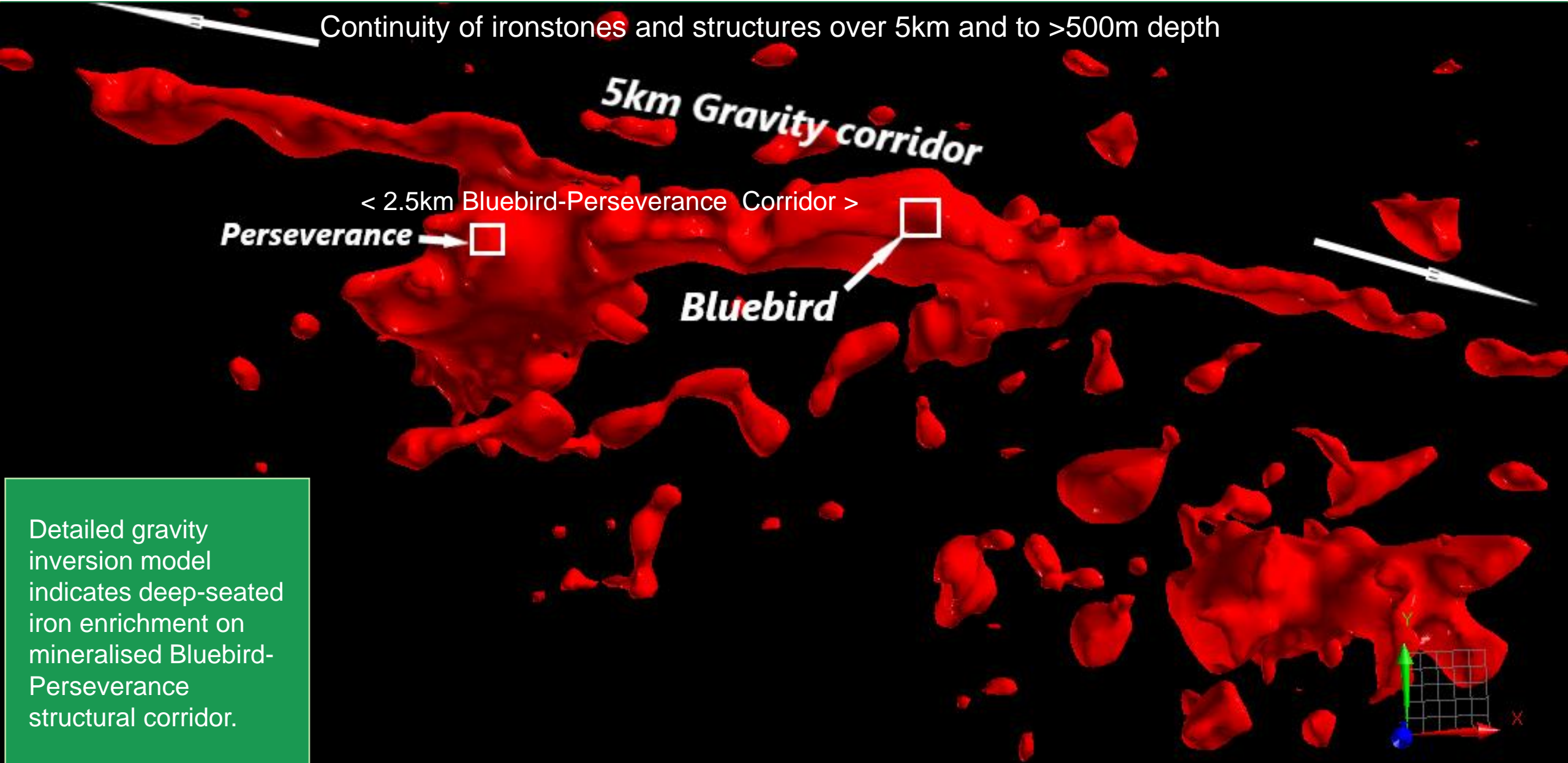


# Barkly Project (Bluebird Discovery) – Major 5km Gravity/Ironstone Corridor

- Covers a 5km strike-length, east-west trending gravity-high indicating major ironstone corridor with multiple discoveries potential.
- Gravity/Ironstone corridor intersected by ENE-WSW trending fault structures - associated with copper and gold mineralisation in 2.5km Perseverance to Bluebird Target Zone.
- Bluebird Cu-Au discovery occurs where ENE-WSW structure intersected gravity high/ironstone corridor and introduced Cu-Au mineralization. Associated hematite-secondary magnetite evident in magnetic “fingerprint”.
- Multiple geophysical (gravity and magnetic) targets remain un-tested.



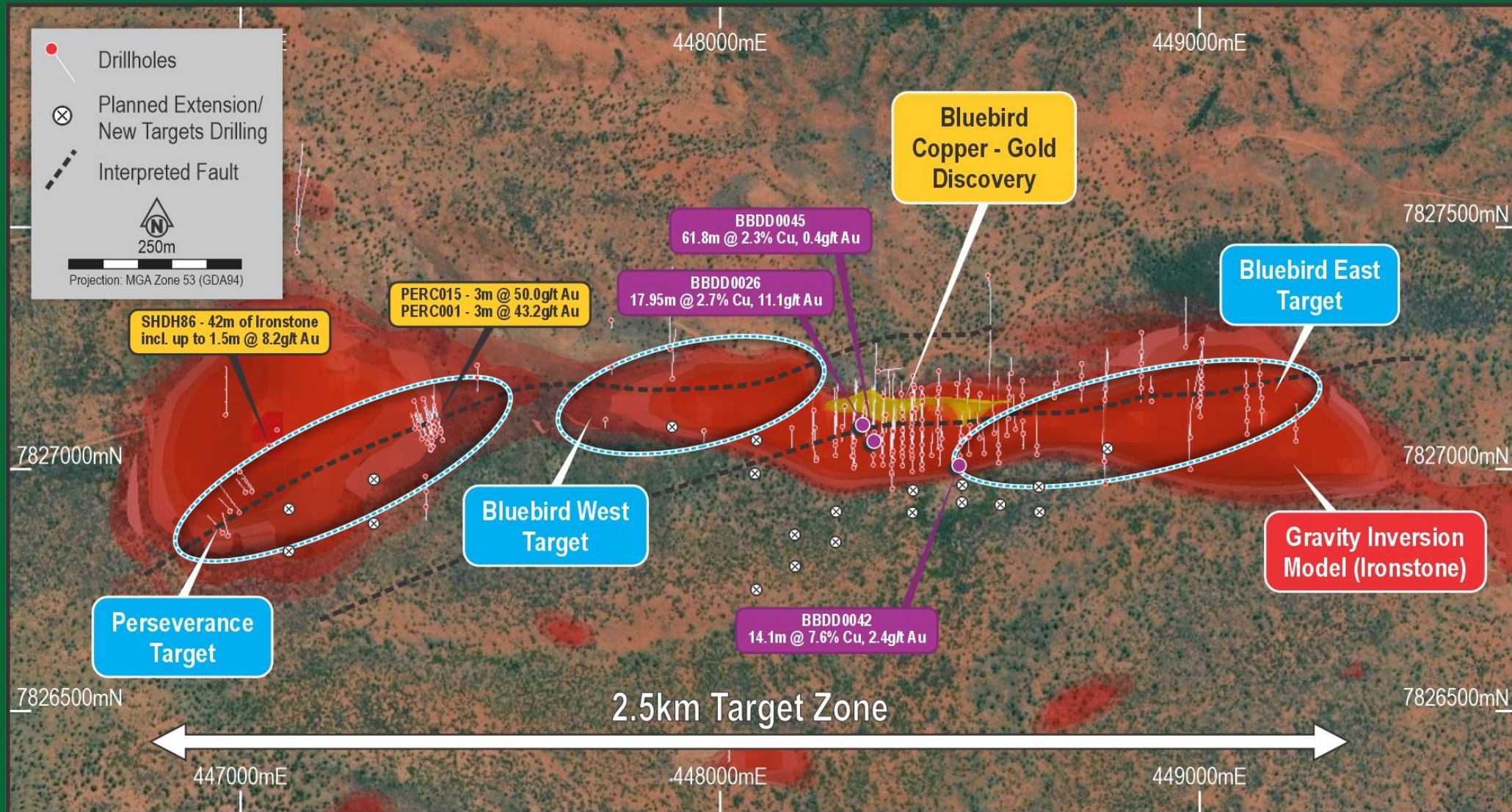
# Barkly Project Gravity Model Potential for major Cu-Au system



Detailed gravity inversion model indicates deep-seated iron enrichment on mineralised Bluebird-Perseverance structural corridor.



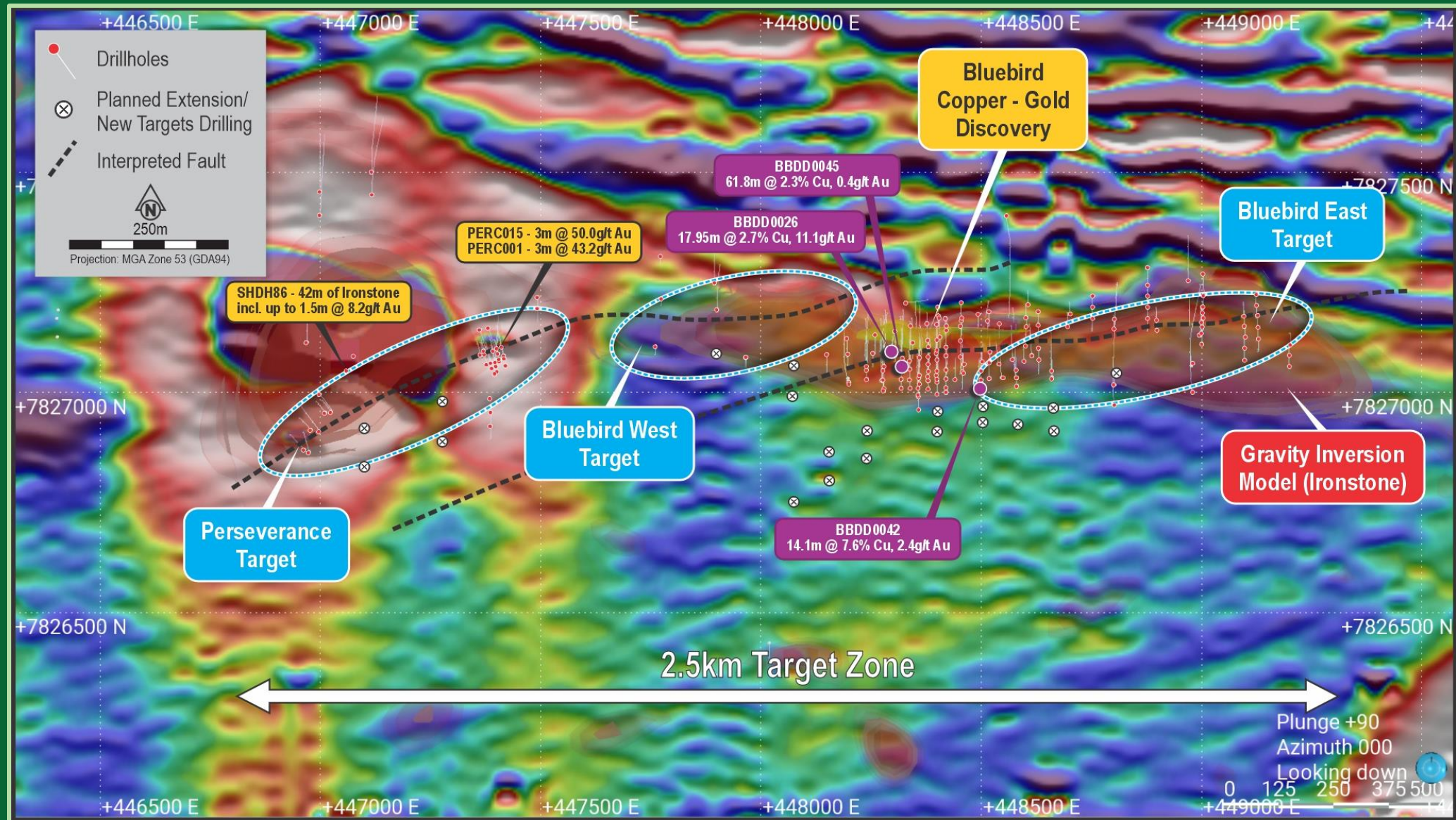
# Bluebird Gravity/Ironstone Model – Potential to Triple Strike-Length



Bluebird 3D mineralisation model, gravity inversion, key targets and drilling, current and planned, at Bluebird

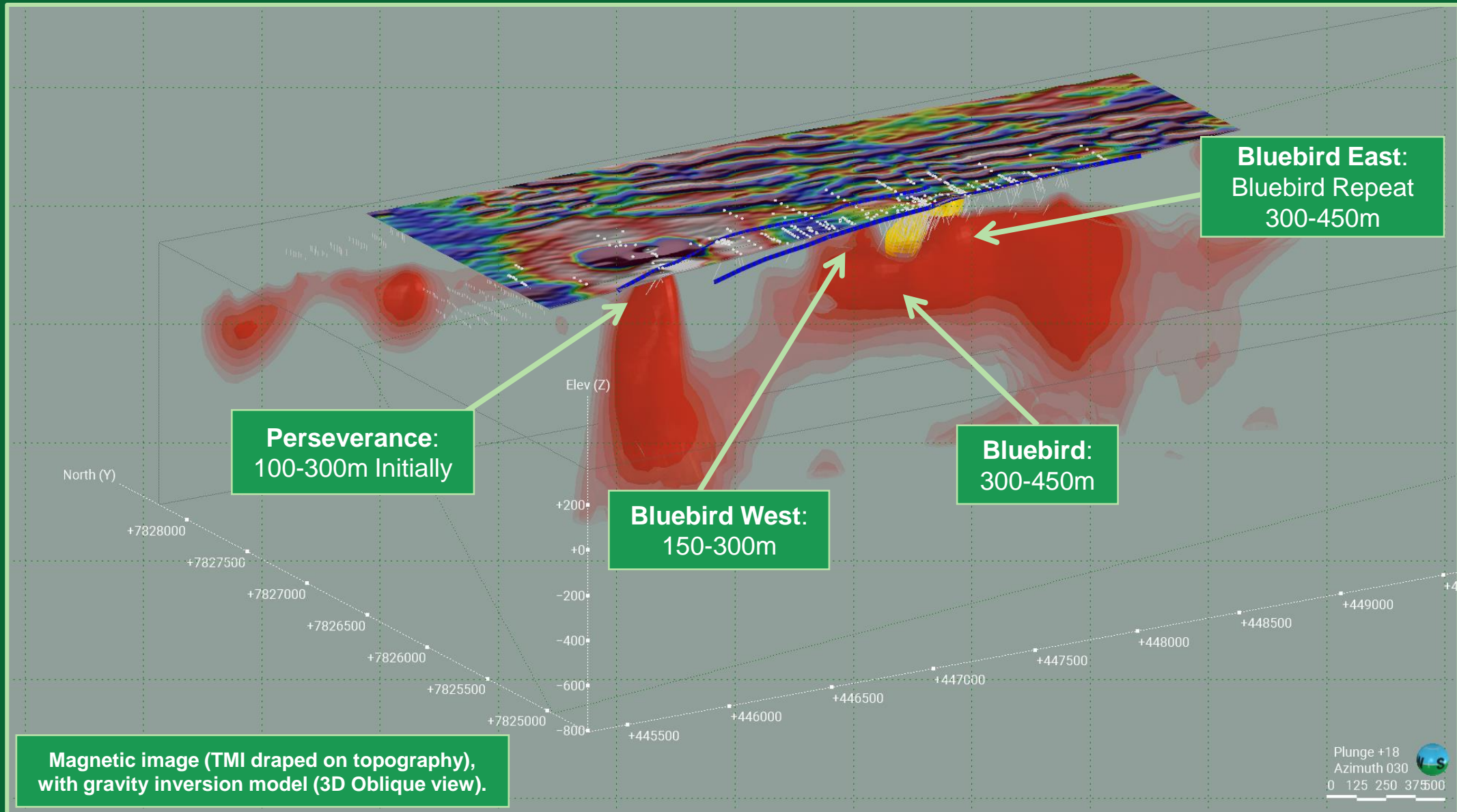


# Bluebird-Perseverance Gravity and Magnetics Targeting



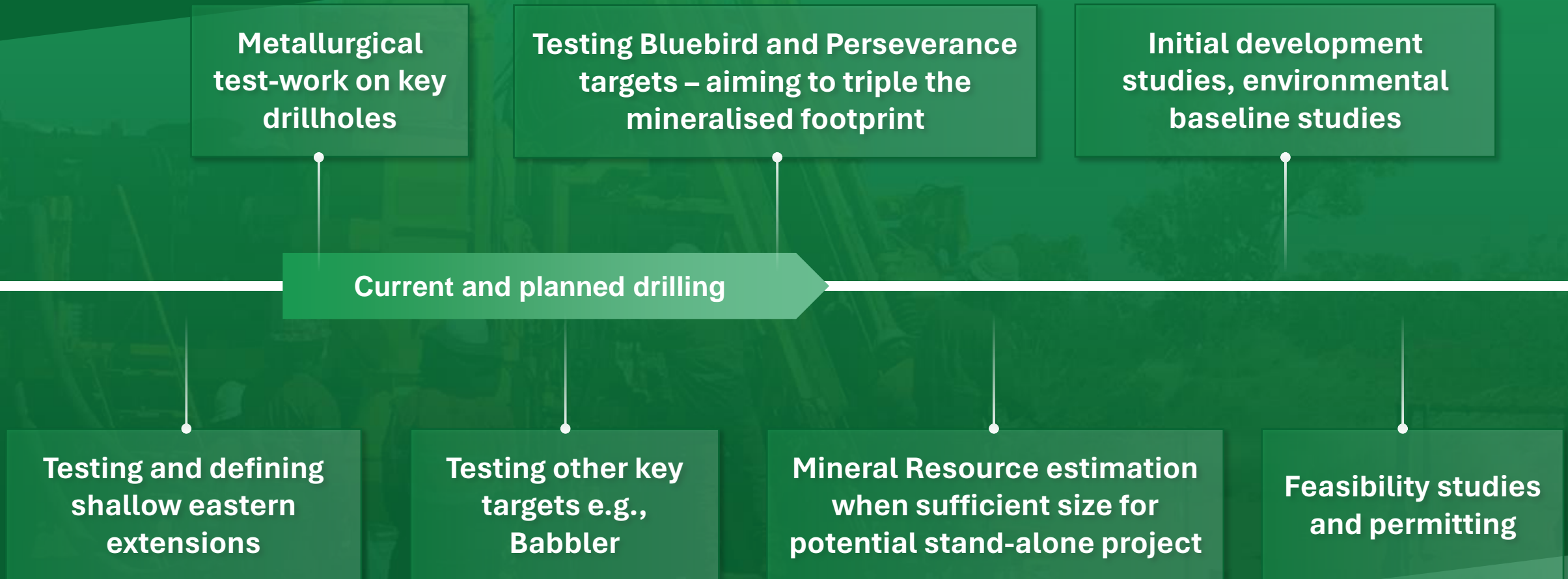


# Bluebird - Perseverance Targets



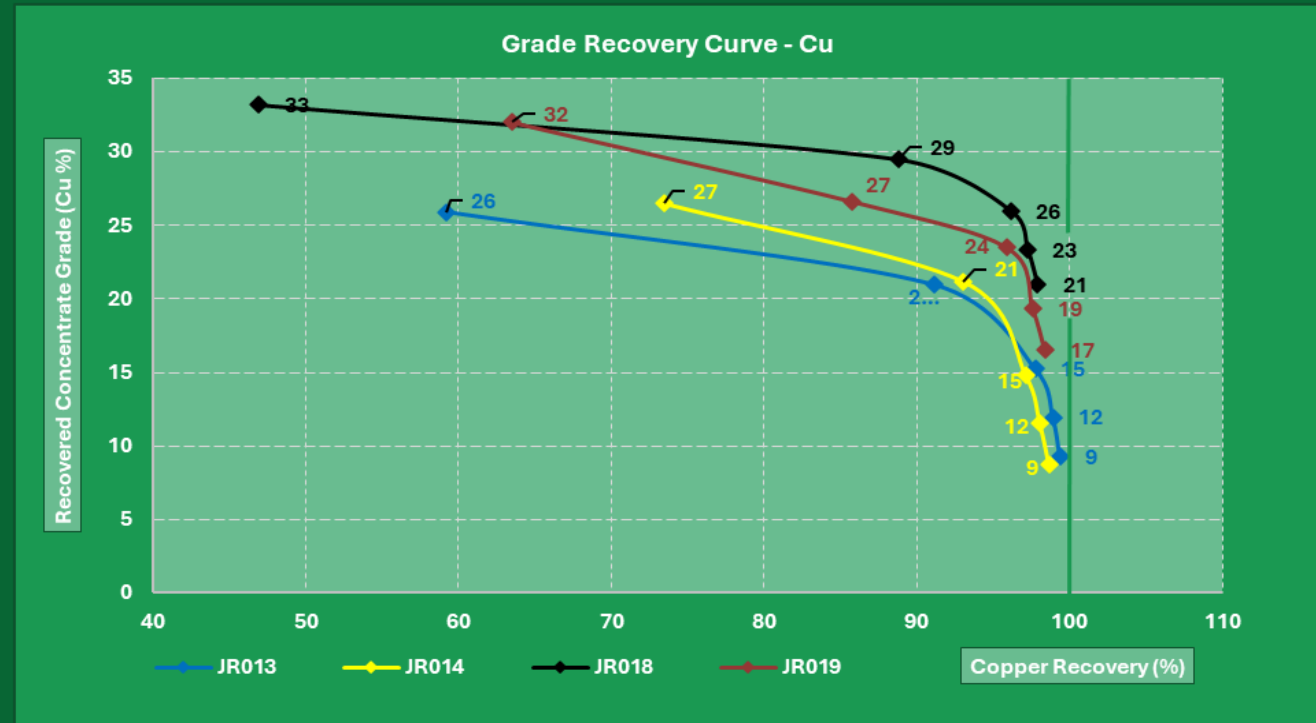


## Next Steps



# First-pass Metallurgical Test-work

- Initial results of early test-work show that up to 97% of the copper in a drill-core composite from the Bluebird project can be extracted via conventional flotation, delivering a copper concentrate grading 23% copper (Cu) and 1.5 g/t gold (Au)
- The flotation upgrade represents a 10-fold increase in copper and a 4-fold increase in gold concentration from the diamond drillhole intersection in BBDD0045 of 61.8m @ 2.3% Cu, 0.4 g/t Au including 13.2m at 9.6% Cu, 1.51 g/t Au.
- Four flotation tests on a drill-core composite sample from BBDD0045 achieved over 91% Cu, and up to 97% Cu recovery to concentrate, at a range of grind sizes from 53  $\mu\text{m}$  to 75 $\mu\text{m}$ . Gold recovery to the flotation concentrate was significant at 66%.



Job Number	Calculated Feed		Concentrate Grade and Recovery			
	Cu (%)	Au (ppm)	Cu (%)	Recovery (%)	Au (ppm)	Recovery (%)
JR013	2.45	0.22	21	91.1	1.4	67.8
JR014	2.25	0.27	21	93.1	2.2	79.7
JR018	2.13	0.20	23	97	1.5	65.9
JR019	2.15	0.23	23	95.9	1.4	54.3



# Key Technical Team



**VINCENT ALGAR**

BSc (Hons) Geology MAusIMM

Chief Executive Officer

**Mr. Algar is a mining and resources geologist with over 33 years in the industry, Vincent brings to Tennant a strong track record of building shareholder value, most recently during his nine-year tenure as Managing Director of Australian Vanadium Ltd (ASX:AVL).**

Vincent has been involved in all aspects of mining operations, exploration, and project feasibility and has held corporate roles in ASX listed junior mineral resource companies, serving both as Managing Director/CEO and in non-executive Director roles.



**JON DUGDALE**

BSc (Hons), FAusIMM, MAICD

Technical Advisor

**Mr. Dugdale is a geologist with over 35 years discovery, development and corporate experience, including direct involvement with significant gold, nickel and copper-gold discoveries.**

Jon's corporate experience includes as a director/CEO of several junior resource companies focused on nickel-cobalt, graphite and copper-gold projects as well as funds management experience with Lion Selection Group.



**CHRIS RAMSAY**

BSc, MAPM, MAusIMM

General Manager Geology

**Mr. Ramsay is a geologist and project manager with over 25 years' experience in the global mining industry.**

Chris' depth of experience includes operational & managerial roles in exploration, mine development and operations in underground & open-cut Gold, Nickel, Base Metal, Bauxite & Coal mines and development projects globally. Chris spent 18 years with Oceana Gold, Sons of Gwalia and Straits Resources before working as a consultant and advisor.



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