



*New discoveries for a sustainable future*



- Tennant Creek

- Alice Springs

Mining the Territory, Darwin  
13 – 14 September 2023

# BLUEBIRD HIGH-GRADE COPPER-GOLD DISCOVERY

THE BARKLY PROJECT  
TENNANT CREEK  
NORTHERN TERRITORY, AUSTRALIA

# 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 presentation that relates to exploration results is based on information compiled and/or reviewed by Mr Jonathon Dugdale. Mr Dugdale is the Technical Advisor to Tennant Minerals Ltd and a Fellow of the Australian Institute of Mining and Metallurgy ('FAusIMM'). Mr Dugdale has sufficient experience, including over 35 years' in exploration (discovery), resource evaluation, mine geology, development studies and finance, 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 Dugdale consents to the inclusion in this presentation of the matters based on this information in the form and context in which it appears.

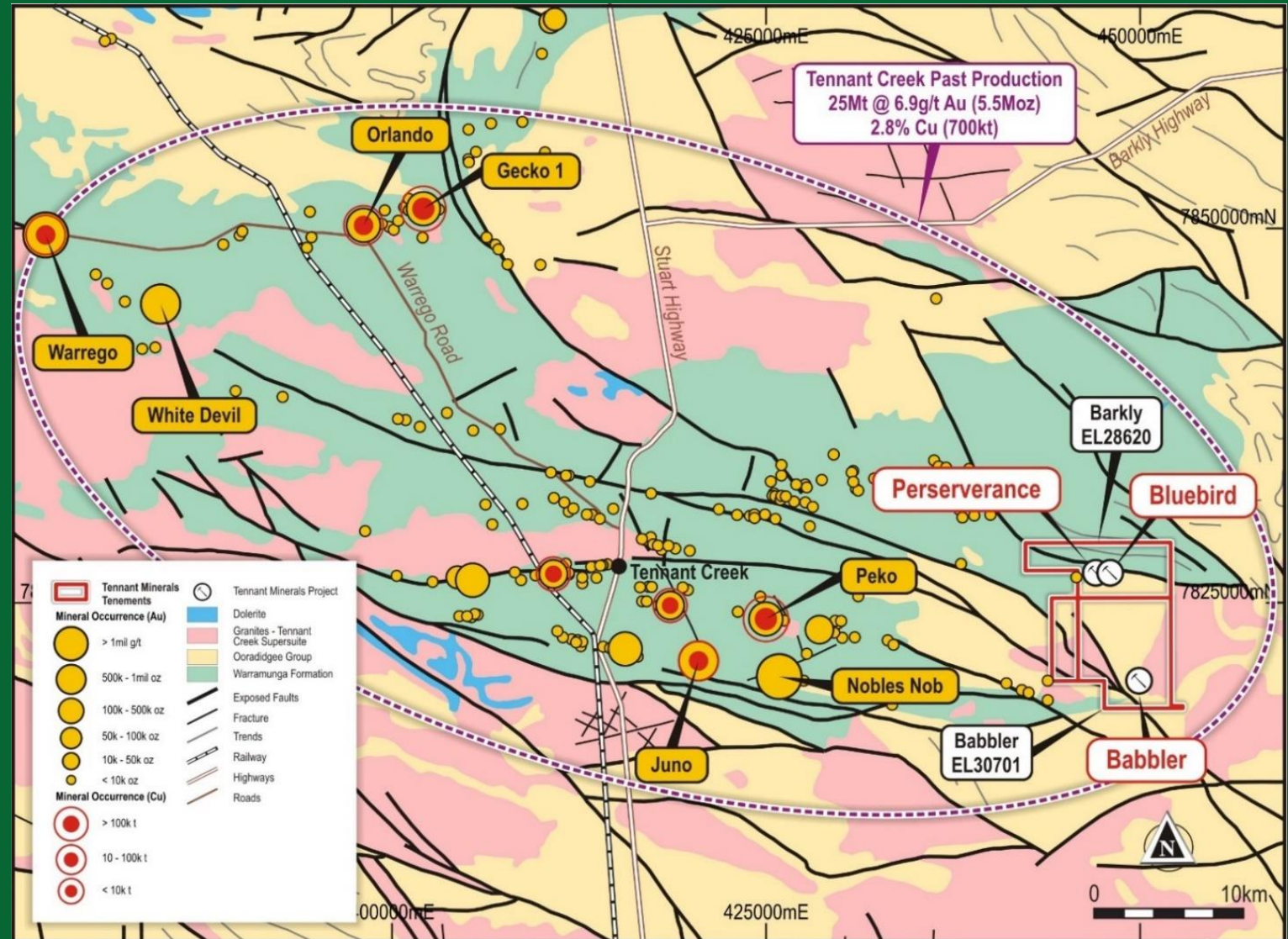
## ASX LISTING RULES COMPLIANCE

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 at the eastern end of Tennant Creek Mineral Field (TCMF), which produced 5.5Moz of gold and 700kt of copper from 1934 to 2005<sup>1</sup>.
- The Barkly Project is located 40km east of Tennant Creek on the eastern margin of the Paleo-Proterozoic Warramunga Province.
- Largest deposits include 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> - 20km west of Bluebird, hosted by ironstone within Warramunga Fm.
- Bluebird is a greenfields copper-gold discovery in an area of deep weathering / shallow cover.
- The geology of Bluebird is similar to the Warrego and Peko deposits, being associated with deformed and altered ironstone within the Warramunga Formation.

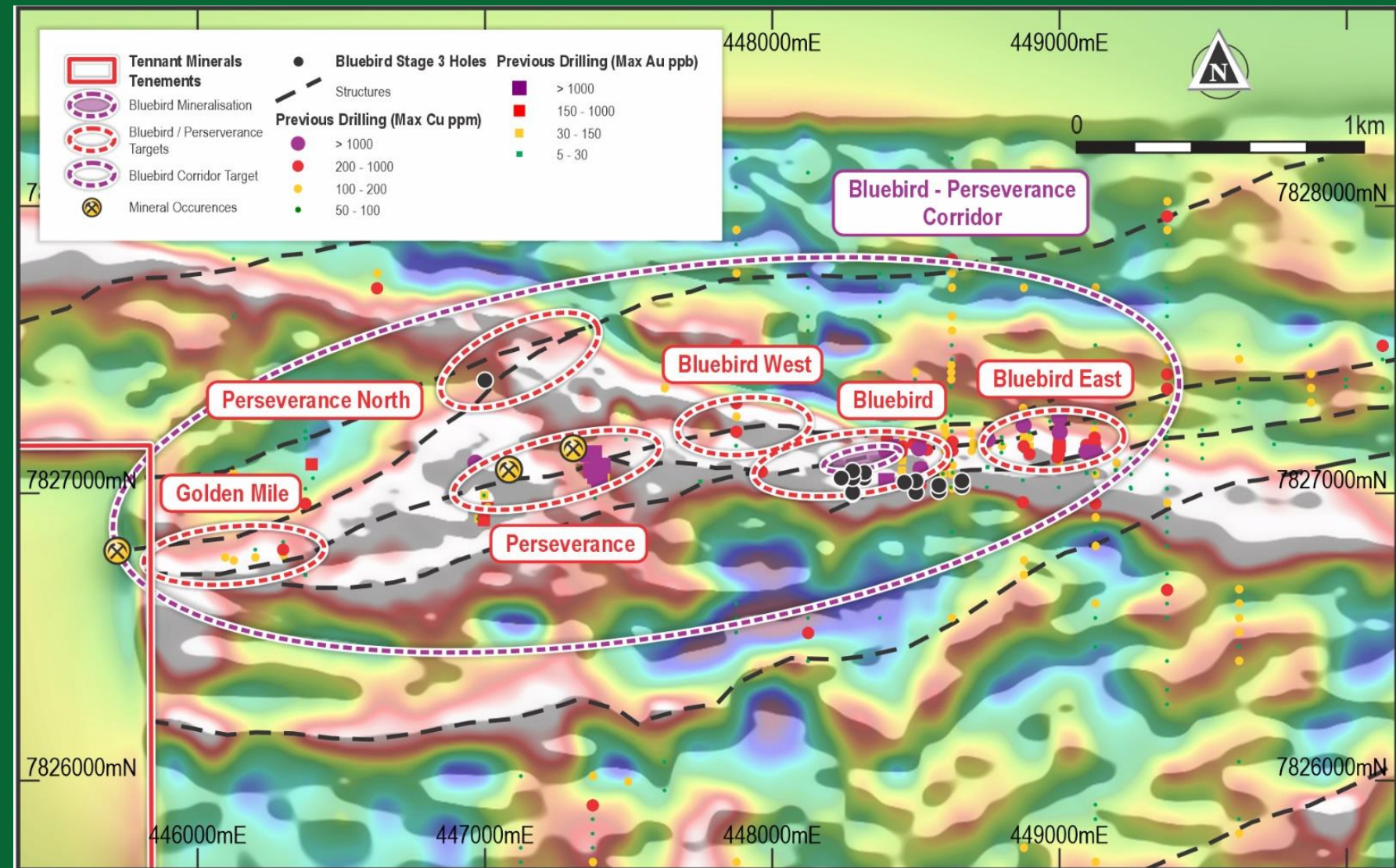


<sup>1</sup>Portergeo.com.au/database/mineinfo. Tennant Creek - Gecko, Warrego, White Devil, Nobles Nob, Juno, Peko, Argo.



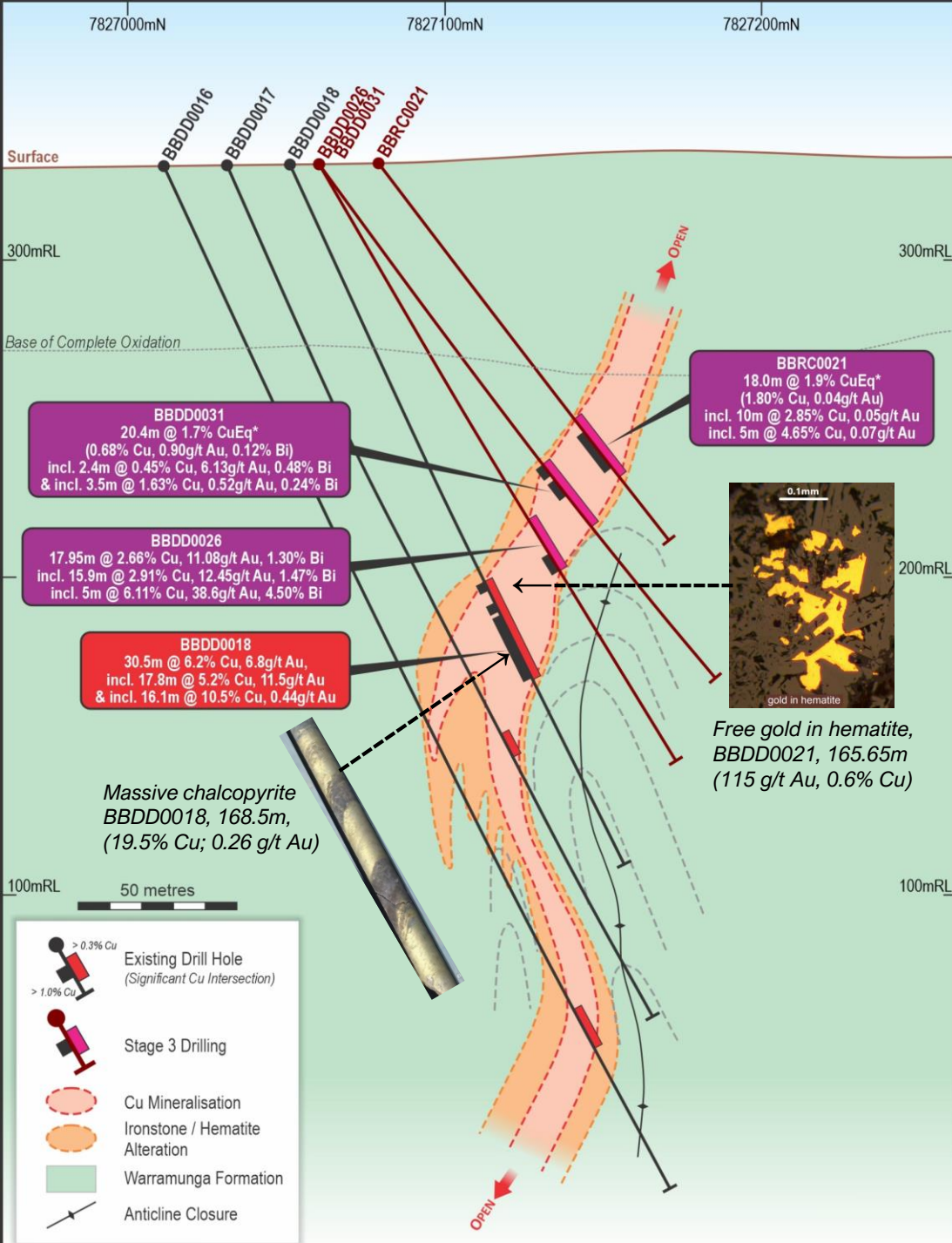
# Barkly Project (Bluebird Discovery) – 5km Gravity Target Corridor

- Barkly Project includes 5km strike-length, east-west trending gravity high (ironstone), intersected by ENE-WSW trending structures associated with mineralisation.
- Bluebird Cu-Au discovery hosted by a ENE-WSW trending structure which has intersected and offset the gravity feature/ironstone.
- Multiple geophysical targets associated with gravity highs, magnetic anomalies and IP resistivity lows, represent un-tested potential for further copper-gold discoveries.





# Bluebird Copper-Gold Discovery



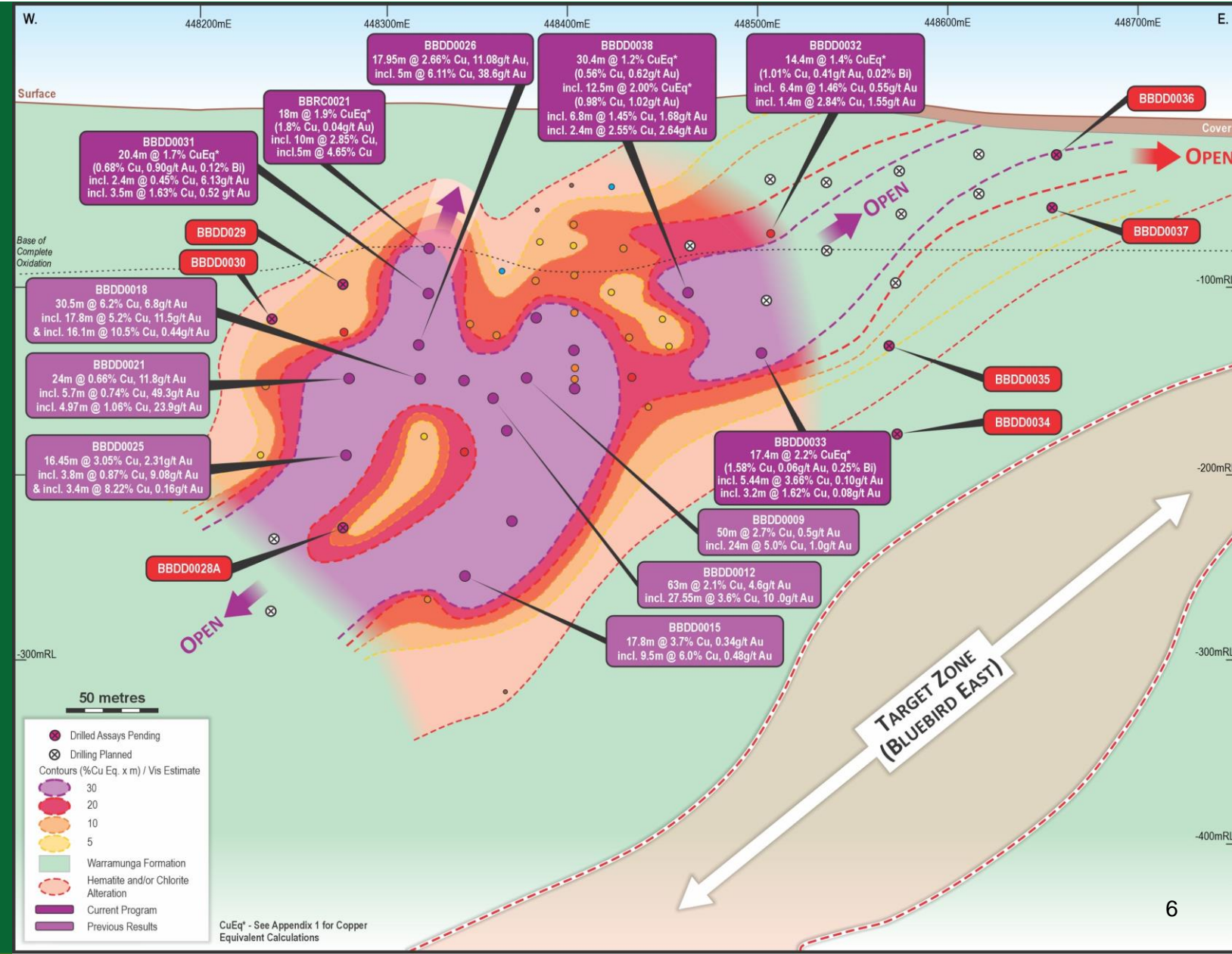
- Bluebird is a 'blind' discovery under 40m to 60m of weathered (saprolitic) Warramunga Formation.
- Host rocks are folded interbedded siltstone, sandstone, and mudstone of the Warramunga Formation.
- Mineralisation associated with east-west trending ironstones localised in the hinge zones of D<sub>1</sub> folds, which are interpreted to have formed early during the *Tennant deformational event*<sup>2</sup>.
- Thick, high-grade, copper-gold-bismuth mineralisation introduced during the *First Hydrothermal Event*<sup>3</sup> into dilational zones where D<sub>2</sub> faulting and brecciation has developed in shallow plunging D<sub>1</sub> fold axes<sup>3</sup>.
- Mineralisation includes free gold with intense hematite and/or chlorite alteration and primary and/or secondary copper sulphides (including chalcocite and/or chalcopyrite) as well as bismuth sulphides (e.g. wittichemite - Cu<sub>3</sub>BiS<sub>3</sub>).

<sup>2</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>3</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 – Thick, High-Grade, Cu-Au Intersections

- Drilling to date has defined high-grade copper-gold mineralisation from 60m to over 250 m depth over a 500m strike length – open in all directions.
- Thick, high-grade, copper-gold intersections to date include:
  - BBDD0026: 18.0m @ 2.66% Cu, 11.08 g/t Au incl. 5.0m @ 6.11% Cu, 12.45 g/t Au<sup>4</sup>
  - BBDD0018: 30.5m @ 6.2% Cu, 6.8 g/t Au incl. 17.8m @ 5.2% Cu, 11.5 g/t Au<sup>5</sup>
  - BBDD0012: 63m @ 2.1% Cu, 4.6 g/t Au incl. 27.55m @ 3.6% Cu, 10.0 g/t Au<sup>6</sup>
- New drilling is designed to extend the Bluebird footprint to the east, west and at depth and ultimately define a substantial high-grade copper-gold Mineral Resource.



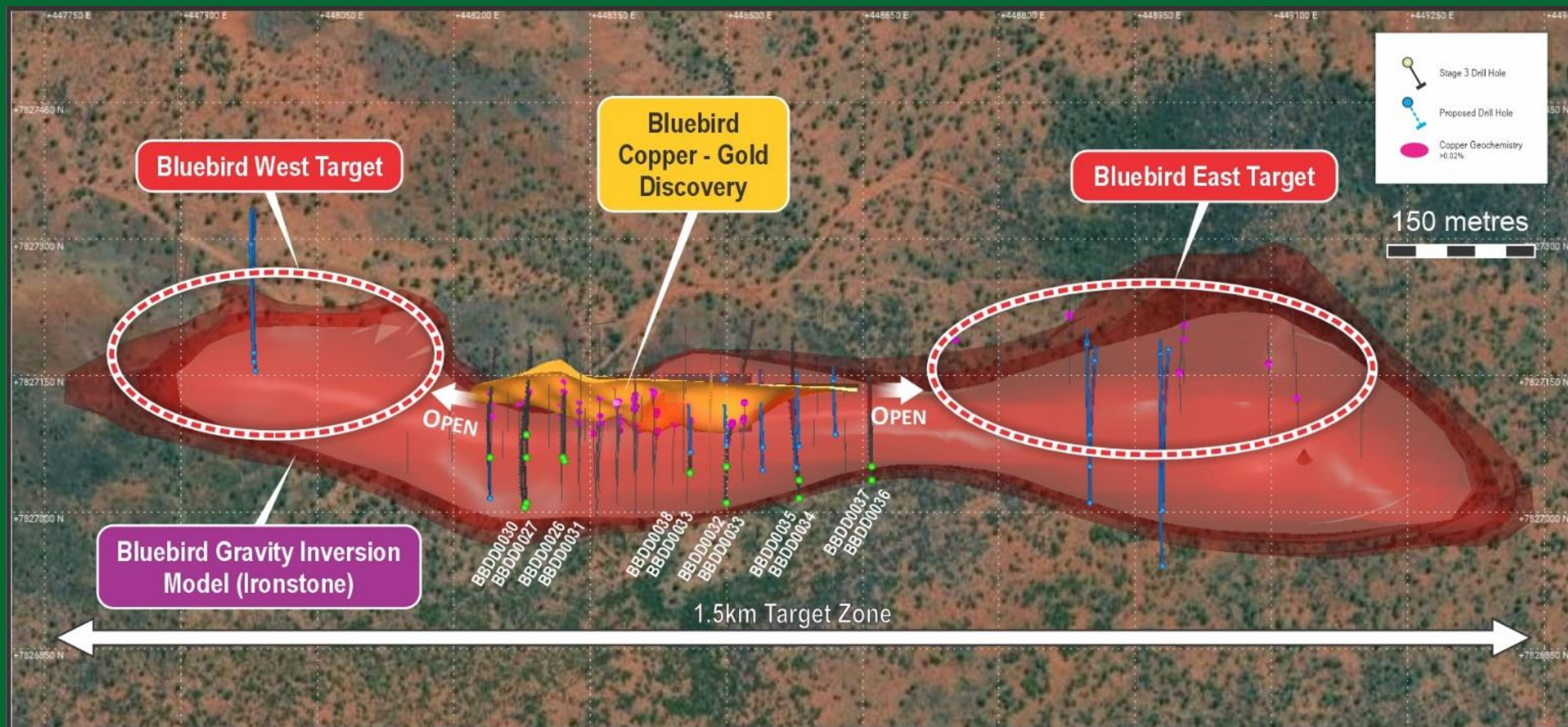
<sup>4</sup> 19/07/2023. "Drilling Doubles Strike Length of Bluebird Copper-Gold Discovery".

<sup>5</sup> 08/02/2023. "Spectacular Drill Hit 30.5m 2 6.2% Cu, 6.8 g/t Au".

<sup>6</sup> 17/08/2022. "Bonanza 63m @ 2.1% Copper and 4.6 g/t Gold Intersection at Bluebird".

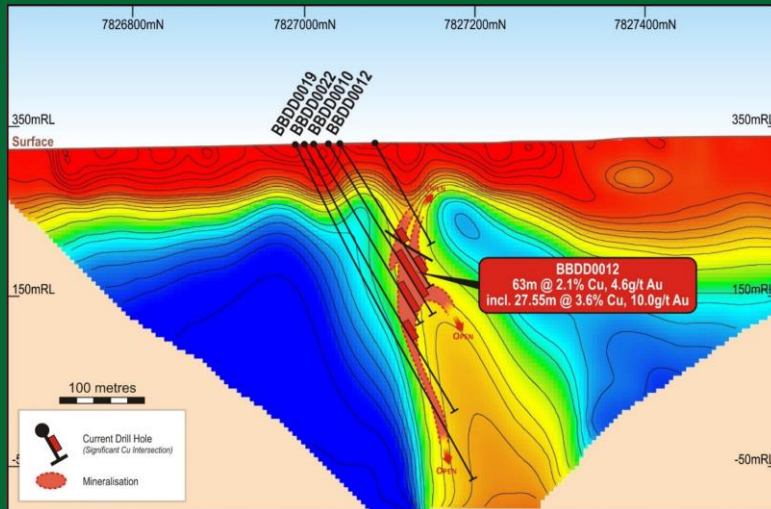


# Bluebird Gravity Model – Potential to Triple the Strike Length



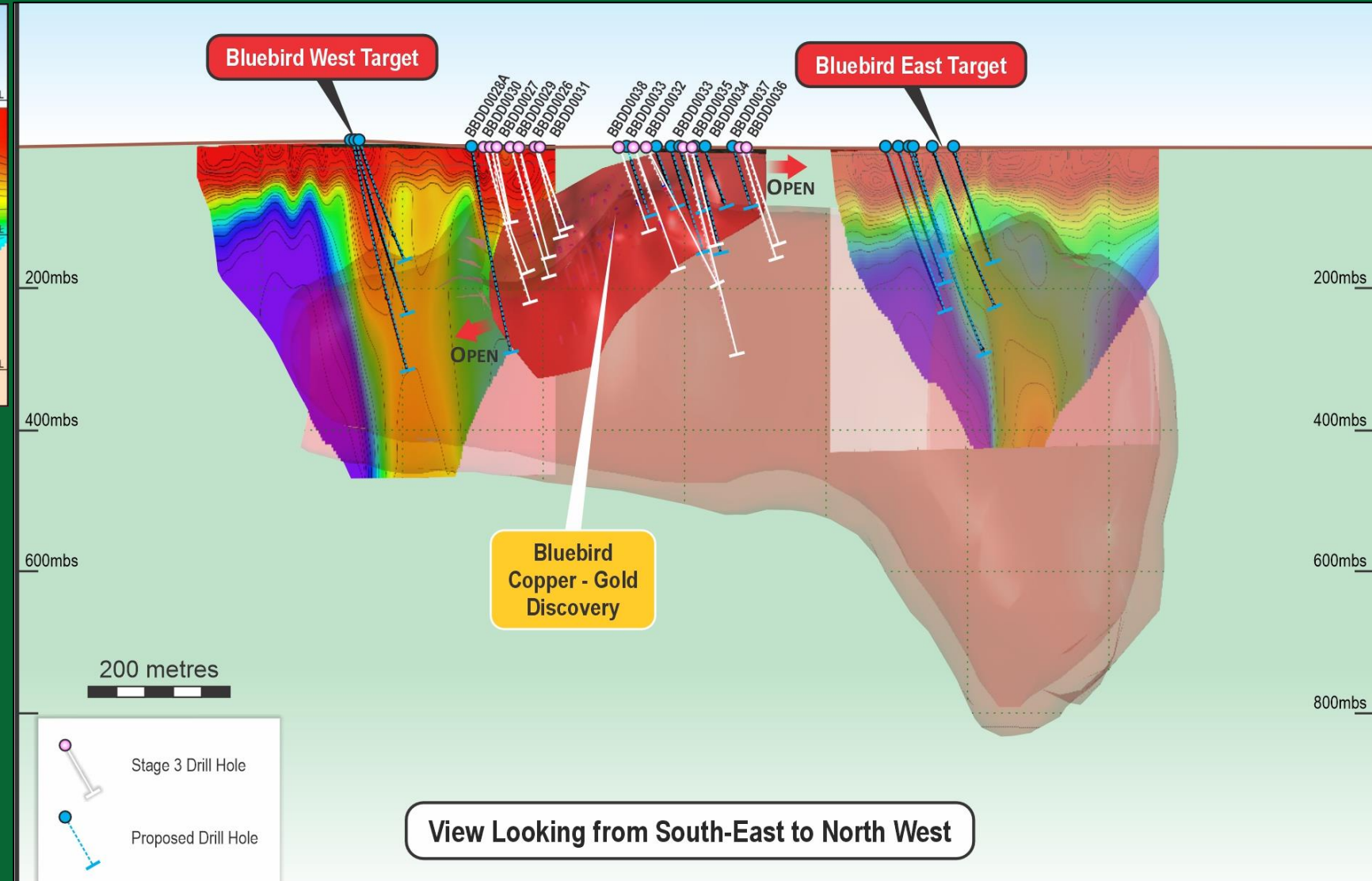


# Drill-Targeting Breakthrough - IP Resistivity Detects Mineralisation



- Bluebird discovery cross-section 448,320mE on IP resistivity<sup>7</sup> shows correlation with mineralisation.
- Step-out IP resistivity<sup>8</sup> has highlighted targets at Bluebird East and West with **potential to triple the strike-length<sup>9</sup>**.
- New drilling set to commence.

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<sup>7</sup> 25/08/2022. Tennant Minerals (ASX. TMS): "Standout Geophysical Targets to Replicate Bluebird Cu-Au Discovery".

<sup>8</sup> 24/01/2023. Tennant Minerals (ASX. TMS): "Mineralised Structures at Key Copper-Gold Targets"

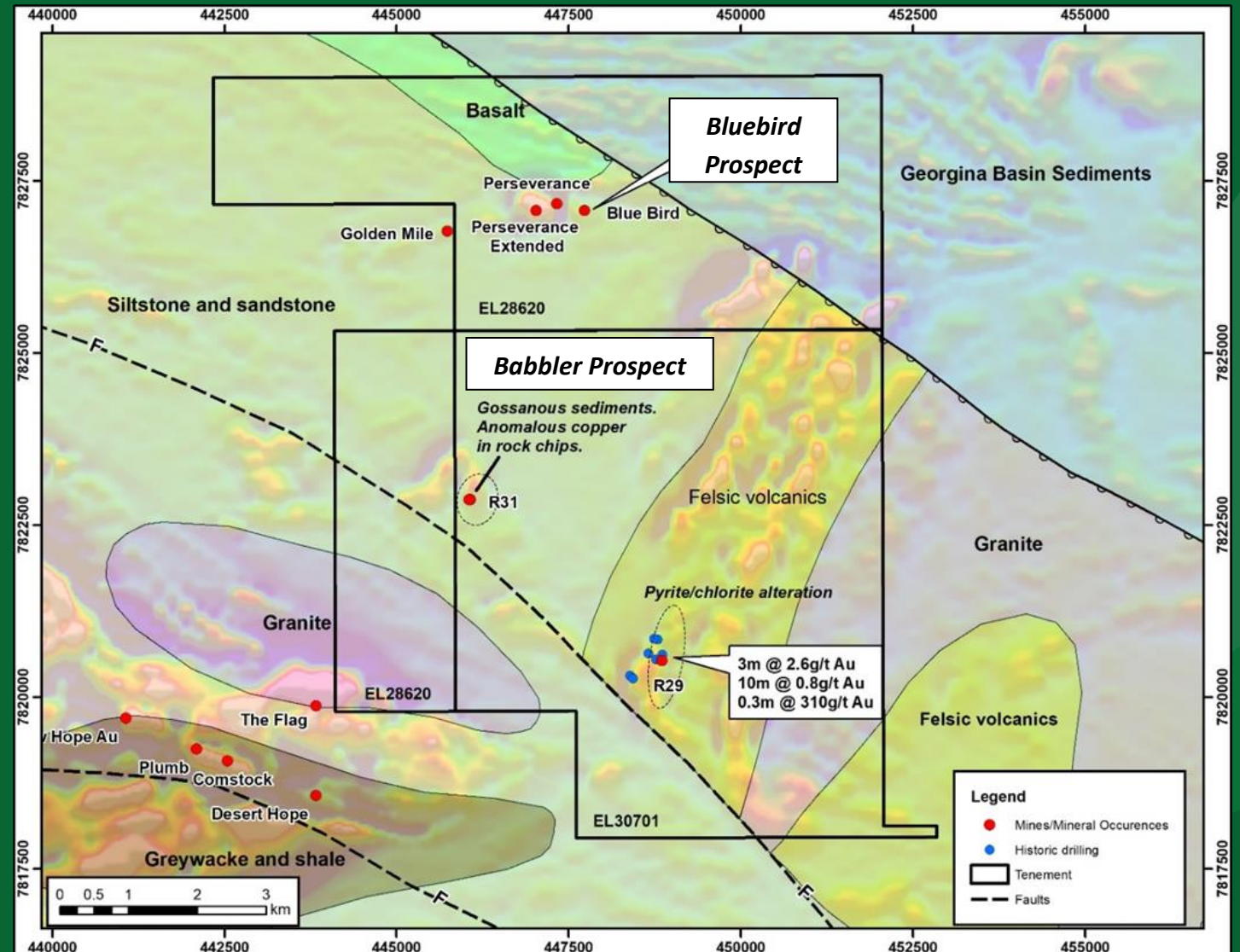
<sup>9</sup> 01/09/2023. Tennant Minerals (ASX. TMS): "New bluebird Drilling to Target Triple the Strike Length"



# But there's more - Babbler Project, Cu-Au Targets Under-Cover

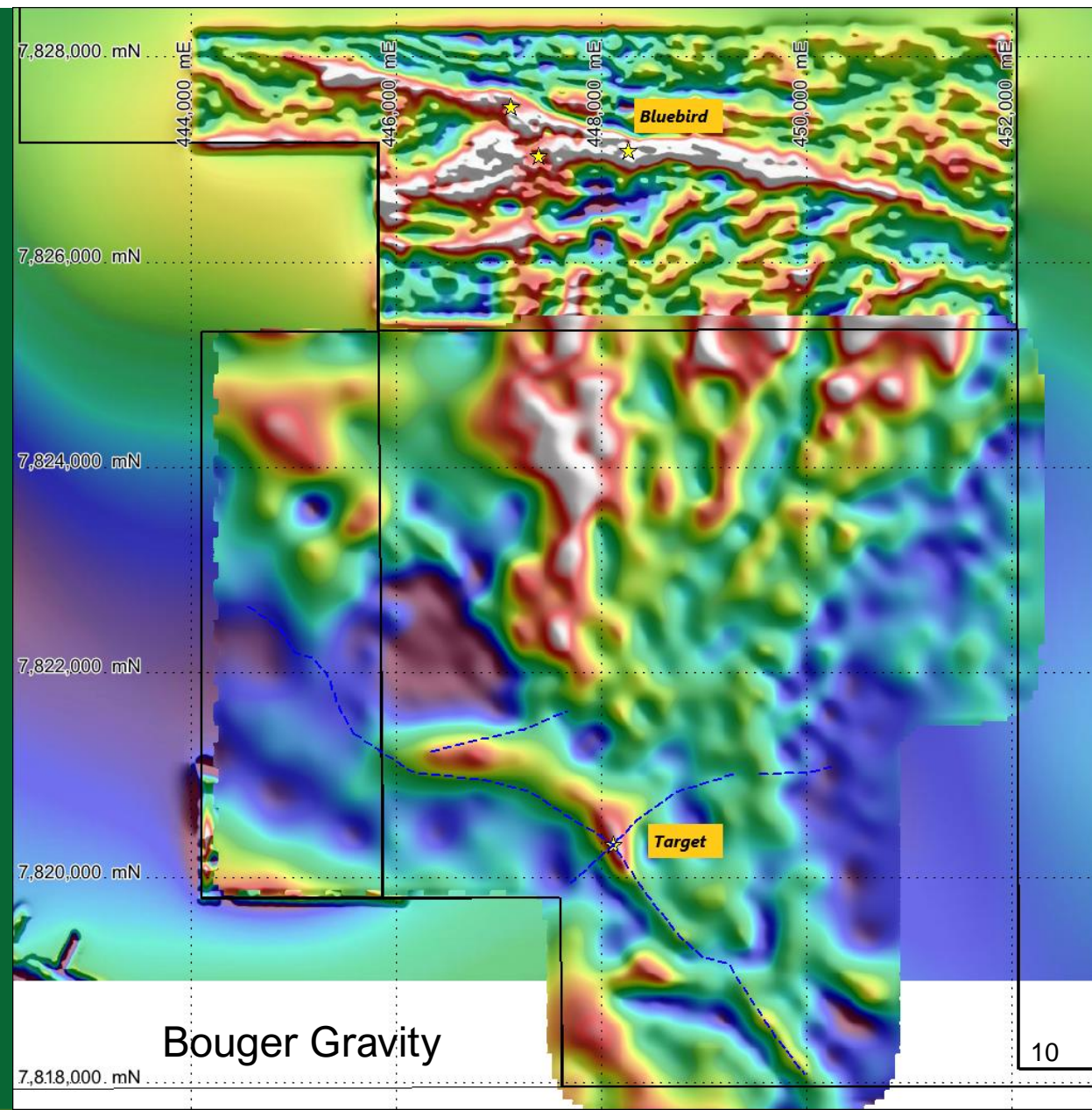
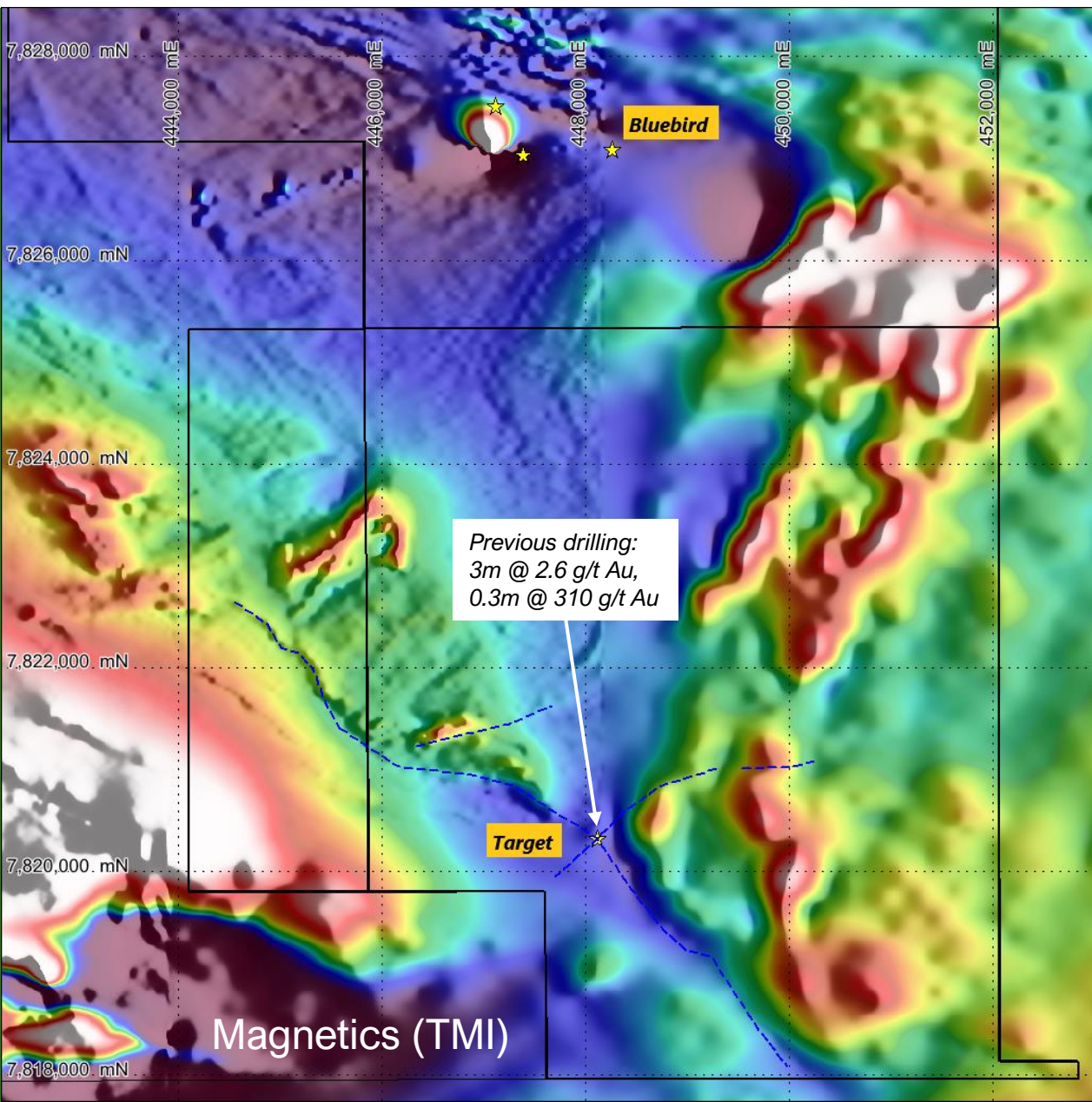
- Babbler tenement EL30701, immediately south of Bluebird.
- Warramunga Formation, the host of Bluebird and other Tennant Creek Cu-Au deposits, under sedimentary/volcanic cover (Ooradidgee Formation).
- Previous drilling includes **3m @ 2.6 g/t Au**, **10m @ 0.8 g/t Au** and **0.3m @ 310 g/t Au** in structures overlying basement targets?
- Magnetic anomalies identified that may be in underlying Warramunga or overlying sedimentary/volcanic sequence.
- Detailed gravity completed<sup>10</sup>. Modelling to define gravity (ironstone) anomalies in Warramunga Formation, representing targets for new copper-gold deposits.
- Drilling planned during next program (potentially NT Govt. supported).

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# Babbler Project Magnetics and Gravity Defines Key Drill-Targets





# Barkly Project – Next Steps Towards Development (12 to 18 months)



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- **New drilling:**
  - To test and define shallow eastern extensions.
  - To test Bluebird East and Bluebird West targets – aiming to triple the mineralised footprint.
  - To test other targets e.g. Babbler.
- **Metallurgical testwork** on key drillholes.
- **Mineral Resource estimation** when sufficient size for potential stand-alone project.
- **Initial development studies**, environmental baseline studies.
- **Feasibility studies and permitting.**





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