

## Drilling Doubles Strike Length of Bluebird Copper-Gold Discovery

*Bluebird extended to 240m strike-length and 300m depth, open in all directions*

- Intense copper mineralisation intersected in latest diamond drilling up to 120m west of previous high-grade intersections at Bluebird has doubled the strike-length of the copper-gold discovery to more than 240m. These new diamond holes (assays pending) include:
  - BBDD0018, which, as previously announced<sup>1</sup>, intersected 32.5m of intense haematite-copper mineralisation including a 7m zone containing 60% massive copper-sulphides,
  - BBDD0021, which intersected a 30m zone of haematite alteration, brecciation and sulphides including an 18m zone of intense copper mineralisation (chalcocite, native copper), and,
  - BBDD0023, which intersected a 6m zone of haematite alteration and copper mineralisation, interpreted to be above the thick plunging zone associated with the targeted low-resistivity induced polarisation (IP) anomaly that is currently being drill-tested at depth.
- Two additional holes have intersected extensions of the main mineralised zone at depth including BBDD0022, which intersected a 20m zone of haematite alteration/mineralisation, including a 10m zone of brecciation and intense copper mineralisation.
- A second drilling program has commenced testing other targets within the Bluebird-Perseverance Corridor where coincident gravity-magnetic anomalies have been prioritised using IP surveys which have defined low resistivity targets at Perseverance North, Perseverance and Bluebird West.
- These additional targets represent potential for multiple high-grade copper-gold deposits similar to Bluebird and/or the nearby Peko deposit, which produced 3.7Mt @ 4% Cu and 3.5g/t Au from 1934 and 1981<sup>2</sup>.

Tennant Minerals chairman Matt Driscoll, said:

*“Our drilling has continued to extend the high-grade copper-gold mineralisation both along strike and at depth at Bluebird, which now has the dimensions of other multi-million tonne deposits in the Tennant Creek Mineral Field.*

*“We have two drilling rigs on double-shift targeting further extensions to the high-grade Bluebird deposit and new discoveries within the other highly-prospective target zones identified within our Barkly Project in line with our aim of defining sufficient high-grade copper-gold resources to support a stand-alone mining operation.”*

Tennant Minerals Ltd (ASX:TMS) (“Tennant” or “the Company”) is very pleased to announce that the latest phase of drilling at the high-grade Bluebird copper-gold discovery has **doubled the strike-length of the deposit to over 240m and extended the mineralisation to approximately 300m below surface**. The mineralised zone remains open in all directions (see longitudinal, Figure 1, below and location, Figure 2).

The Bluebird discovery is one of multiple targets identified within the Company’s 100%-owned Barkly Project along a 5km east-west trending gravity anomaly known as the “Bluebird Corridor”.

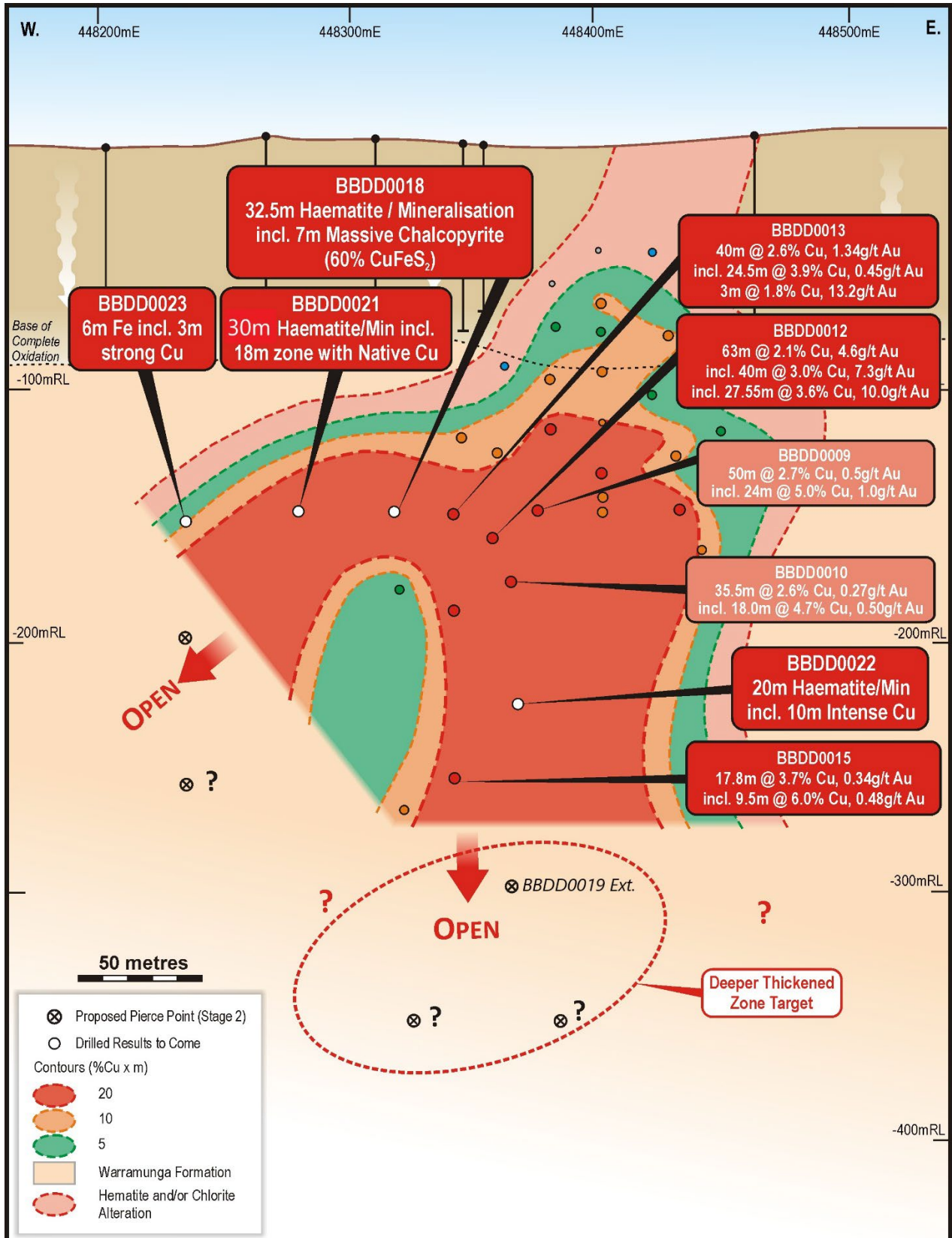


Figure 1: Bluebird longitudinal projection with high-grade copper-gold intersections to date and Stage 2 drilling

In addition to the previously announced BBDD0018, which intersected a **32.5m intersection of intense haematite and copper mineralisation** from 151.6m including a **7m zone of predominantly massive copper-sulphides** from 164m<sup>1</sup>, two new holes have intersected intense copper-mineralisation on two 40m step-out sections to the west of BBDD0018 (see Appendix 1, descriptions of mineralisation and Figure 1, below). This has doubled the strike length of the drilled deposit to over 240m. These two new holes include:

- BBDD0021, which intersected a **30m zone of haematite alteration, brecciation and sulphides** from 161m downhole including **18m of intense copper mineralisation (including native copper)**, and,
- BBDD0023, which intersected **6m of haematite and copper mineralisation** from 173m downhole, interpreted to be above the thick plunging zone associated with the targeted low-resistivity induced polarisation (IP) anomaly on section 448,240mE (see Figure 1). Deeper drilling on this section will now test extensions of the thickened zone which previously produced intersections such as:
  - o **63m @ 2.1% Cu, 4.6g/t Au from 153m (incl. 27.55m @ 3.6% Cu, 10.0g/t Au) in BBDD0012<sup>3</sup>**
  - o **40m @ 2.6% Cu, 1.34g/t Au from 131m (incl. 4.75m @ 15.2% Cu) in BBDD0013<sup>4</sup>**

In addition, deeper drilling designed to extend the Bluebird deposit at depth includes BBDD0022 which intersected a **20m zone of haematite alteration/mineralisation from with a 10m zone of intense brecciation and copper mineralisation** (predominantly chalcocite) (see Figure 1).

Drillhole BBDD0019 intersected 10m of haematite altered ironstone from 244m downhole and has been extended to intersect the mineralised structure at ~300m below surface (cross section, Figure 3).

### About the Bluebird Copper-Gold Discovery

The high-grade Bluebird copper-gold discovery is located within the Company’s 100% owned Barkly Project, at the eastern edge of the Tennant Creek (copper-gold) Mineral Field (TCMF), which **produced over 5Moz of gold and over 500kt of copper** from 1934 to 2005<sup>2</sup> (see location, Figure 2, below).

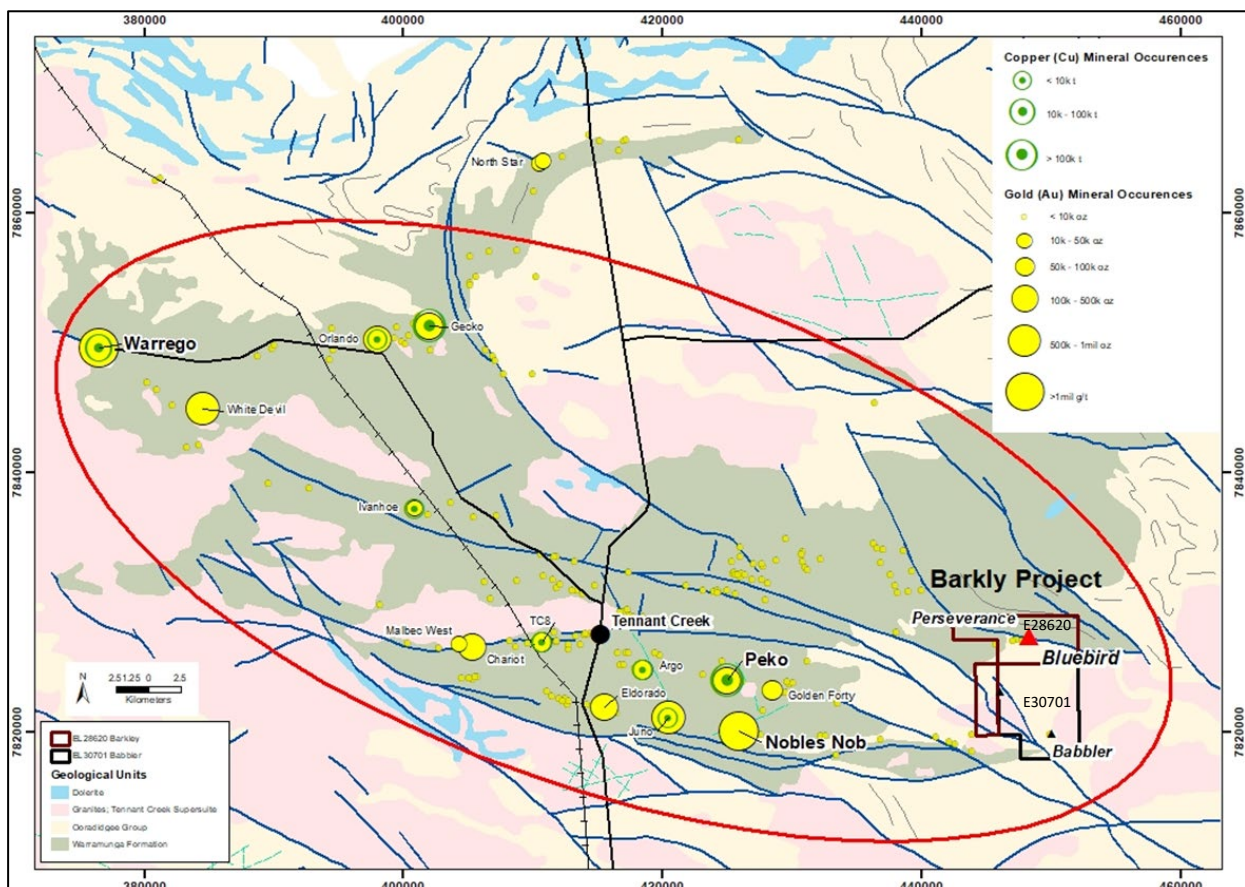


Figure 2: Location of the Barkly Project and major historical mines in the Tennant Creek Mineral Field



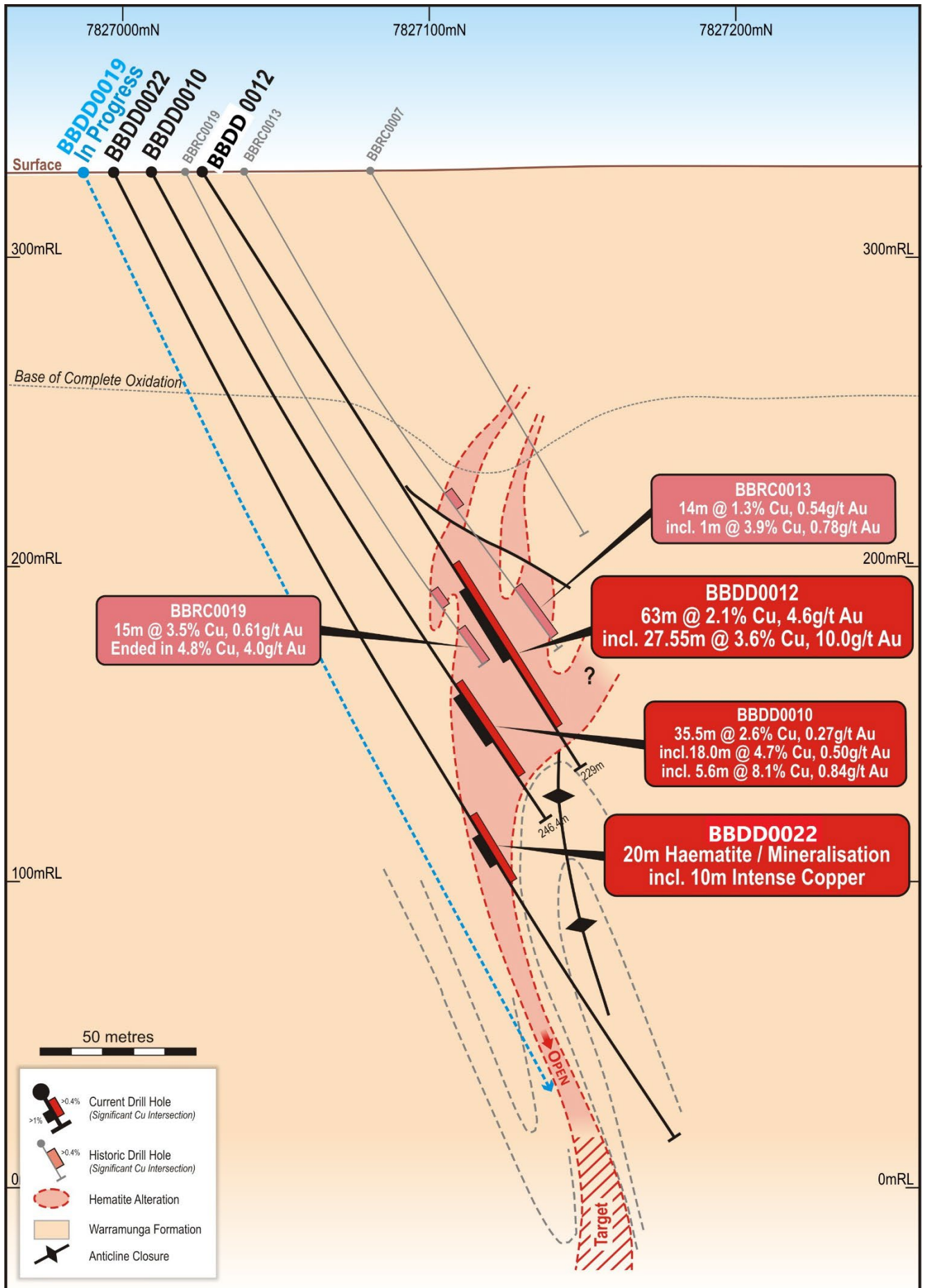


Figure 3: Cross-section 448,360mE with new intensely mineralised intersection in BBDD0022 and target at depth.

Drilling to date at Bluebird has identified a steep westerly plunging zone of copper-gold mineralisation extending from 60m to more than 300m below surface (Figure 1) and now 240m along strike in an east-west orientation. The mineralised zone remains open in all directions.

The latest diamond drilling intersections have extended the thick high-grade dilational zone of mineralisation at Bluebird 120m to the west of recent high-grade copper-gold intersections previously announced by the Company (see Figure 1), including:

- **63.0m @ 2.1% Cu and 4.6g/t Au** from 153m (down hole) in BBDD0012<sup>3</sup> (448,360mE)
  - including **40.0m @ 3.0% Cu and 7.3g/t Au** from 155.0m,
  - including **27.55m @ 3.6% Cu and 10.0g/t Au** from 160.45m.
- **40m @ 2.6% Cu and 1.34g/t Au** from 131m (down hole) in BDD0013<sup>3</sup> (448,340mE)
  - including **24.5m @ 3.9% Cu and 0.45g/t Au** from 146.5m,
  - including **4.75m @ 15.2% Cu and 0.36g/t Au** from 164m.
- **50.0m @ 2.70% Cu and 0.52 g/t Au** from 158m (down hole) in BBDD0007<sup>4</sup> (448,380mE)
  - including **24.0m @ 5.01% Cu and 1.01 g/t Au** from 159m,
  - including **4.3m @ 14.7% Cu and 3.10 g/t Au** from 176.6m.

Previous drilling intersections targeting depth extensions of the Bluebird deposit include **17.8m @ 3.7 % Cu**, 0.34g/t Au from 277m (incl. **9.5m @ 6.0% Cu**) in BBDD0015<sup>4</sup>, which indicates proximity to a second dilational (thickened) zone target at depth (see target zone on Figure 1).

The results of the IP program have shown a distinct low resistivity (high conductivity) and coincident chargeability response corresponding with the Bluebird mineralisation on the central section 448,360mE, (see cross section 448,360mE, Figure 3 below), thus confirming that Bluebird can be detected with IP. This section includes the BBDD0012 intersection of **63m @ 2.1% Cu, 4.6g/t Au**<sup>3</sup> and the IP low resistivity zone indicates continuity at depth down to >400m below surface.

Interpretation of the key drilling intersections, utilising structural data from logging of drill core, indicates that the thick and high-grade copper and gold intersections in BBDD0012<sup>3</sup> and BBDD0013<sup>4</sup> are associated with steeply dipping structures that have intersected and “rolled-over” the axis of a shallow-plunging anticline, generating a thick dilational mineralised zone (see Figure 3).

The current Stage 2 drilling program builds on the successful Stage 1 diamond drilling recently completed at Bluebird. Up to 10 holes for 3,000m are being drilled in Stage 2 with the aim of extending the Bluebird discovery to a depth of more than 400m (Figure 1) and test for extensions/repeats of the high-grade copper-gold zone along strike to the west within the Bluebird-Perseverance Target Zone (Figure 4). This will define the potential for multiple high-grade copper-gold mineral resources of similar scale to the Peko deposit, 20km west of Bluebird (Figure 2), which produced **3.7Mt @ 4% Cu and 3.5g/t Au** from 1934 and 1981<sup>2</sup>.

## MULTIPLE COPPER-GOLD TARGETS IDENTIFIED WITHIN THE BLUEBIRD CORRIDOR

The Bluebird discovery is associated with a gravity high, which is part of a 5km long gravity anomaly, defining the “Bluebird Corridor”. This gravity anomaly reflects high-density, iron enrichment in the primary zone below the near surface leaching that extends to >80m depth at Bluebird (Figure 1).

Interpretation of new detailed drone magnetics imagery and modelling (Figure 4), combined with the detailed gravity data, has identified **12 coincident magnetic-gravity copper-gold targets within a 2km “Bluebird-Perseverance Target Zone”** extending west of the high-grade Bluebird copper-gold discovery<sup>5</sup>. This major target zone includes an exceptionally strong magnetic-gravity feature centred below the historical Perseverance gold workings (see Figure 4).

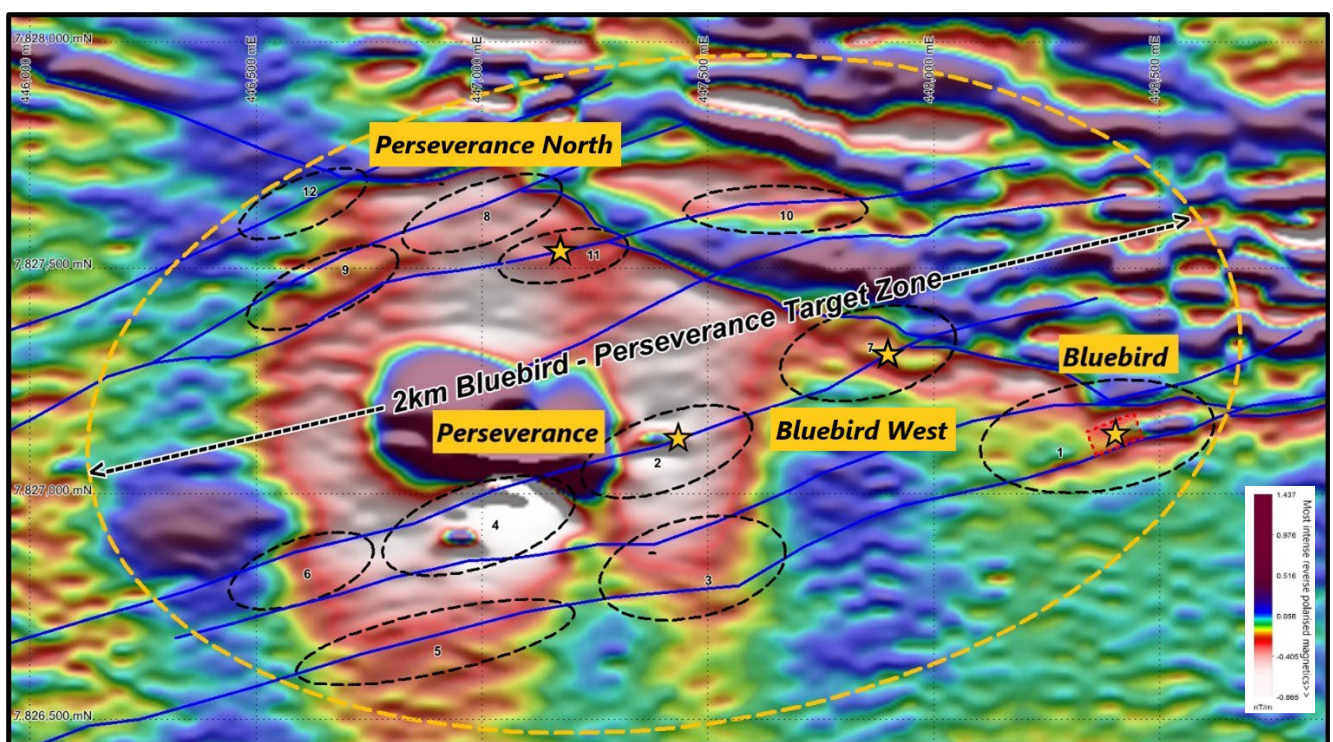
Previous RC drilling under Perseverance produced shallow high-grade gold intersections such as **3m @ 50.0 g/t Au from 42m in PERC015**<sup>5</sup> and **3m @ 43.2 g/t Au from 72m in PERC001**<sup>6</sup>. These high-grade gold

intersections have not been followed up and the underlying ironstone copper-gold target is to be drill-tested during this Stage 2 program.

The Company has completed an IP geophysical survey over Bluebird which successfully detected a low resistivity, high chargeability response associated with the Bluebird mineralisation (Figure 3), along with extensions to this “fingerprint” 80m to the west on section 448,240mE where extensions of the mineralisation have now been intersected.

Further IP traverses completed over the 12 gravity-magnetic targets identified within the 2km Bluebird-Perseverance Target Zone<sup>5</sup> (see Figure 4) have produced low-resistivity/high-chargeability anomalies similar to Bluebird in at least three target areas including Perseverance North, Perseverance and Bluebird West (see Figure 4).

Modelling of the IP data is in progress and second drilling rig is currently drill-testing these priority copper-gold targets identified from the magnetics and gravity modelling as well as the IP survey, within the Bluebird-Perseverance Target Zone (see Figure 4, below).



**Figure 4: Bluebird-Perseverance magnetic intensity (reversed) image, with structures & magnetic-gravity targets**

Appendix 1 includes descriptions of the mineralisation intersected by BBDD0018, BBDD0021, BBDD0022 and BBDD0023.

Appendix 2 includes JORC Table 1, Sections 1 and 2.

## REFERENCES

- <sup>1</sup> 28/10/2022. Tennant Minerals (ASX.TMS): “Massive Chalcopyrite Intersected at Bluebird”
- <sup>2</sup> Portergeo.com.au/database/mineinfo. Tennant Creek - Gecko, Warrego, White Devil, Nobles Nob, Juno, Peko, Argo.
- <sup>3</sup> 17/08/2022. Tennant Minerals (ASX. TMS): “Bonanza 63m@ 2.1% Copper and 4.6 g/t Gold Intersection at Bluebird”.
- <sup>4</sup> 07/09/2022. Tennant Minerals (ASX. TMS): “Up to 54.5% Cu in Massive Sulphides at Bluebird”.
- <sup>5</sup> 25/08/2022. Tennant Minerals (ASX. TMS): “Standout Geophysical Targets to Replicate Bluebird Cu-Au Discovery”.
- <sup>6</sup> 25/02/1995, Posgold. Final Report for Exploration Licence 7693, 2/6/92 to 25/11/94. NTGS Report CR19950192.

\*\*\*ENDS\*\*\*



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## **CAUTIONARY STATEMENT REGARDING FORWARD LOOKING INFORMATION**

This release 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 or reviewed by Mr Nick Burn who is Exploration Manager for Tennant Minerals Ltd and a member of the Australian Institute of Geoscientists. Mr Burn has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking to qualify as a Competent Person as defined in the 2012 edition of the 'Australasian Code of Reporting of Exploration Results, Mineral Resources and Ore Reserves'. Mr Burn consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

## **ASX LISTING RULES COMPLIANCE**

In preparing this announcement the Company has relied on the announcements previously made by the Company and specifically dated 06 December 2021, 13 December 2021, 21 December 2021, 8 March 2022, 15 March 2022, 24 March 2022, 13 May 2022, 6 June 2022, 6 July 2022, 17 August 2022, 25 August 2022, 7 September 2022, 13 October 2022 and 28 October 2022. 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.

## Appendix 1. Visual estimates of mineralisation intersected in BBDD0018, BBDD0021, BBDD0022 and BBDD0023:

### Cautionary note regarding visual estimates:

In relation to the disclosure of visual mineralisation in the tables below, the Company cautions that visual estimates of oxide, carbonate and sulphide mineralisation material abundance should never be considered a proxy or substitute for laboratory analyses. Laboratory ICP-MS and ICP-OES analyses are required to determine widths and grade of the elements (e.g., copper, Cu) associated with the visible mineralisation reported from preliminary geological logging. The Company will update the market when laboratory analytical results are received and compiled.

BBDD0018 Summary Log					
From	To	Zone	Lithology & alteration/mineralisation		
0	62.7	Hanging Wall, PCD Rotary Drilling, not yet logged			
62.7	73	Hanging Wall	Reddish weathered / oxidised siltstone		
73	145.9		Blue grey bedded siltstone, minor thin sandstone interbeds, minor localised brecciation		
145.9	151.6		Grey very fine-grained sandstone and lesser siltstone, increasing fracturing and localised fine quartz vein stockwork	139.3m: fine chalcopyrite vein	
151.6	164.0	Mineralised Zone'	151.6	164.0	Intense hematite ironstone, weakly magnetic in part, broken & fractured in part.
164.0	171.0	Mineralised massive sulphide zone'	164.0	164.9	<b>Massive chalcocite 90%, after chalcopyrite</b>
			164.9	165.4	Siltstone & <b>90% banded massive chalcopyrite</b>
			165.4	167.85	Siltstone breccia & minor <b>chalcopyrite veins &amp; patches 20%.</b>
			167.85	171.0	<b>Massive chalcopyrite 75%</b> in altered/brecciated siltstone
171.0	171.38	Mineralised Zone'	171.0	171.38	Siltstone breccia & minor <b>chalcopyrite veins &amp; patches 10%</b>
171.38	175.55	Intermediate Zone	Haematite-stained fractured siltstone, minor chalcopyrite veins & patches 10%		
175.55	177.0	Mineralised Zone'	silvery grey hard altered siltstone, scattered <b>patchy oxidised chalcopyrite 10%</b> Alteration pervasive but not silica, not magnetic, not chlorite, possibly moderate steely hematite with chalcocite in bands?		
177.0	177.8	Intermediate Zone	Altered siltstone: pervasive steely? alteration, & soft silvery mica/talc		
177.8	184.1	Mineralised Zone'	Hematite ironstone, rubbly in part, disrupted qtz veining, <b>sooty chalcocite</b> in parts up to 20%.		
184.1	246.8	Footwall	Reddish laminated siltstone Some 10-30cm zones of sheared or disrupted qtz – carb – chl veining or stockwork		



<b>BBDD0021 Summary Log</b>			
<b>From</b>	<b>To</b>	<b>Zone</b>	<b>Lithology &amp; alteration/mineralisation</b>
0	80.0	Hanging Wall, PCD Rotary Drilling, not yet logged	
80.0	141.6	Hanging Wall	Reddish weathered / oxidised siltstone
141.6	154		Blue grey – purple bedded siltstone, minor thin sandstone interbeds, minor localised brecciation and increasing patchy hematite alteration
154	161		Grey fine-grained siltstone, increasing fracturing and localised fine quartz vein stockwork, moderately brecciated, patchy hematite alteration at base
161	168.6	Mineralised Zone	Intense hematite ironstone, weakly magnetic in part, broken & fractured in part. Weak quartz veining. Patchy <b>chalcocite 2%</b> with <b>trace chalcopyrite</b>
168.6	178.7		Dark grey fine-grained siltstones, strongly altered with qtz-carbonate veining. Haematite- jasper alteration with ironstone, crackle and vughy veins. <b>Patchy chalcocite up to 10%</b> with <b>disseminated native copper 1%</b> throughout
178.7	181.5	Mineralised Zone	Hematite ironstone, rubbly in part, disrupted qtz veining, <b>sooty chalcocite in parts up to 20%</b> .
181.5	191.5		Dark grey fine-grained siltstones, strongly altered with qtz-carbonate veining. Haematite- jasper alteration with ironstone, crackle and vughy quartz veins. Patchy <b>chalcocite up to 10%</b> with <b>disseminated native copper 1%</b> throughout
191.5	202.3	Footwall	Grey altered siltstone, mod brecciated, mr platy chloritic alteration Occasional qtz veining with zones of sheared or disrupted qtz – carb – chl veining or stockwork
202.3	277	Footwall	Reddish laminated siltstone Some 10-30cm zones of sheared or disrupted qtz – carb – chl veining or stockwork, mr alteration halo with veins
277	291.5	Footwall	Reddish laminated siltstone Major 10-30cm zones of sheared or disrupted qtz – carb – chl veining or stockwork, mod alteration halo with veins

<b>BBDD0022 Summary Log</b>			
<b>From</b>	<b>To</b>	<b>Zone</b>	<b>Lithology &amp; alteration/mineralisation</b>
0	40.1	Hanging Wall, PCD Rotary Drilling, not yet logged	
40.1	85	Hanging Wall	Grey/light mauve f-grained siltstones, massive, weathered in patches, some fine qtz veins
85	114.8		Grey black interbedded siltstones and mudstones, strongly brecciated in part, mod qtz-carb vein fractures and stockwork
114.8	153.4		Grey/light mauve f-grained siltstones, weathered in patches, some fine qtz veins
153.4	176.37		Grey siltstones, massive, coarser grained downhole
176.37	176.7	Upper Mineralised Zone	Narrow band of siltstones weakly altered grey/pink, brecciated, coarser grained

From	To	Zone	Lithology & alteration/mineralisation
176.7	179		Siltstone grey fine grained, with moderate Qtz veinlets
179	184	Mineralised Zone	Fine grained siltstone with patches of pink/red haematite alteration, weathered dk zones with Native Cu specks, brecciated in part. <b>1% disseminated native Copper</b>
184	211.62		Fine grained grey siltstones, weak to mod patchy haematite alteration Increased qtz veins downhole and brecciated in parts
211.62	214.5	Weak Mineralised Zone	V. fine grained, dk grey/blk ironstone. Some quartz veining and weak haematite alteration <b>Patchy 1% chalcocite</b>
214.5	225.2		Grey fine-grained siltstones, mod brecciated some mr quartz veining
225.2	244.2		V. fine grained dk grey siltstone, weak haematite alteration
244.2	264.3		Ironstone, black, vuggy, coarse grained, with jasper/ haematite alteration. <b>Visible malachite 2%, disseminated chalcocite 1% - 10%.</b>
264.3	281.8	Footwall	Fine grained red-brown siltstones, interbedded
281.8	287		Silicious, cherty, green/pink, V. fine grained siltstones
287	376.5		Purple siltstone alternating intermittently with highly oxidised fine grained, thinly bedded siltstones. Three cycles of above

<b>BBDD0023 Summary Log</b>			
From	To	Zone	Lithology & alteration/mineralisation
0	81.0	Hanging Wall, PCD Rotary Drilling, not yet logged	
81.0	142.9	Hanging Wall	Fine -medium grained grey siltstone with occasional mudstone intervals
142.9	173.65		Grey – purple bedded siltstone, minor thin sandstone interbeds, minor localised brecciation and increasing patchy hematite alteration Grey fine-grained siltstone, increasing fracturing and localised fine quartz vein stockwork, moderately brecciated, patchy hematite alteration at base
173.65	174.65	Mineralised Zone	Dark grey fine-grained siltstones, strongly altered with qtz-carbonate veining. Haematite- jasper alteration with ironstone, crackle and vuggy veins. <b>Patchy chalcocite up to 1% with disseminated native copper 1%</b>
174.65	178.9		Intense hematite ironstone, weakly magnetic in part, broken & fractured in part. Weak quartz veining. Haematite- jasper alteration <b>Patchy chalcocite up to 10% with disseminated native copper 1%</b>
178.9	180.55	Footwall	Grey altered siltstone, mod brecciated, rare alteration halo Occasional crackle quartz veining and qtz veining with zones of sheared or disrupted qtz – carb – chl veining or stockwork
180.55	243.2		Reddish laminated siltstone, interbedded with mudstones at base Some 10-30cm zones of sheared or disrupted qtz – carb – chl veining or stockwork, with alteration halo with veins
243.2	255		Reddish laminated siltstone Major 10-30cm zones of sheared or disrupted qtz – carb – chl veining or stockwork, mod alteration halo with veins. Large vughs, strongly faulted.

**APPENDIX 2**
**JORC 2012 Edition - Section 1 Sampling Techniques and Data**

(Criteria in this section apply to all succeeding sections.)

Criteria	JORC Code explanation	Commentary
<b>Sampling techniques</b>	<ul style="list-style-type: none"> <li>• <i>Nature and quality of sampling (e.g., cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc). These examples should not be taken as limiting the broad meaning of sampling.</i></li> <li>• <i>Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.</i></li> <li>• <i>Aspects of the determination of mineralisation that are Material to the Public Report.</i></li> <li>• <i>In cases where ‘industry standard’ work has been done this would be relatively simple (e.g., ‘reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay’). In other cases, more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (e.g., submarine nodules) may warrant disclosure of detailed information.</i></li> </ul>	<ul style="list-style-type: none"> <li>• Exploration results are based on industry best practices, including sampling, assay methods, and appropriate quality assurance quality control (QAQC) measures.</li> <li>• Core samples (2021 and 2022) are taken as half HQ3 core and sampled on nominal 1m intervals, with sampling breaks adjusted to geological boundaries where appropriate.</li> <li>• Reverse Circulation (RC), 2020 program: RC drill chips were collected at 1m intervals via a cone splitter in pre-numbered calico bags. The quantity of sample was monitored by the geologist during drilling.</li> <li>• RC samples of between 3-4kg were sent to the laboratory where they were pulverised to at least 85% passing 75 microns. The pulp sample is then split to produce a sample for analysis.</li> <li>• Diamond drill samples submitted to the laboratory are crushed and pulverised followed by a four-acid total digest and multi-element analysis by inductively coupled plasma optical emission spectrometry (ICP-OES) and inductively coupled plasma mass spectrometry (ICP-MS). Gold and precious metal analysis are completed by a 50g fire assay collection with inductively coupled plasma optical emission spectrometry (ICP-OES) finish.</li> </ul>
<b>Drilling techniques</b>	<ul style="list-style-type: none"> <li>• <i>Drill type (e.g., core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (e.g., core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc).</i></li> </ul>	<ul style="list-style-type: none"> <li>• RC drilling (2020) was conducted using a 5<sup>1</sup>/<sub>4</sub>” face sampling hammer, with holes drilled -60 degrees.</li> <li>• Rotary mud (RM) drilling (2021 and 2022) was completed with 126mm PCD hammer with holes drilled between -60 and -65 degrees.</li> <li>• 2021 Diamond drillholes were collared using RM drilling and switched to HQ3 approximately 30m before the target position is intersected. All coordinates are quoted in GDA94 datum unless otherwise stated.</li> </ul>
<b>Drill sample recovery</b>	<ul style="list-style-type: none"> <li>• <i>Method of recording and assessing core and chip sample recoveries and results assessed.</i></li> <li>• <i>Measures taken to maximise sample recovery and ensure representative nature of the samples.</i></li> <li>• <i>Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.</i></li> </ul>	<ul style="list-style-type: none"> <li>• RC sample recovery is monitored by the field geologist. Low sample recoveries are recorded on the drill log. The geologist is present during drilling to monitor the sample recovery process. There were no significant sample recovery issues encountered during the drilling program.</li> <li>• RM sample recovery was monitored by the site geologist, logged and a sample record was retained for future interpretation. No analysis of rotary mud collars was undertaken.</li> </ul>



Criteria	JORC Code explanation	Commentary
		<ul style="list-style-type: none"> <li>The quality of diamond core samples is monitored by the logging of various geotechnical parameters, and logging of core recovery and competency.</li> </ul>
<b>Logging</b>	<ul style="list-style-type: none"> <li><i>Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies.</i></li> <li><i>Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.</i></li> <li><i>The total length and percentage of the relevant intersections logged.</i></li> </ul>	<ul style="list-style-type: none"> <li>All logging is completed according to industry best practice.</li> <li>RC chips are logged at 1m intervals using a representative sample of the drill chips. Logging records include lithology, alteration, mineralisation, colour and structure.</li> <li>RM chips are logged at 2m intervals using a representative sample of the drill chips. Logging records include lithology, alteration, mineralisation and colour</li> <li>Detailed diamond drillcore information on lithology, sample quality, structure, geotechnical information, alteration and mineralisation are collected in a series of detailed self-validating logging templates.</li> </ul>
<b>Sub-sampling techniques and sample preparation</b>	<ul style="list-style-type: none"> <li><i>If core, whether cut or sawn and whether quarter, half or all core taken.</i></li> <li><i>If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.</i></li> <li><i>For all sample types, the nature, quality and appropriateness of the sample preparation technique.</i></li> <li><i>Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.</i></li> <li><i>Measures taken to ensure that the sampling is representative of the in-situ material collected, including for instance results for field duplicate/second-half sampling.</i></li> <li><i>Whether sample sizes are appropriate to the grain size of the material being sampled.</i></li> </ul>	<ul style="list-style-type: none"> <li>For all sample types, the nature, quality and appropriateness of the sample preparation technique is considered adequate as per industry best practice.</li> <li>RC samples of 3-4kg are collected at 1m intervals using a cone splitter. The sample size is appropriate for the style of mineralisation and the grain size of the material being sampled.</li> <li>RC samples are dried at the laboratory and then pulverised to at least 85% passing 75 microns.</li> <li>RM samples were not analysed. A sample was retained for future interpretation.</li> <li>Core is cut using an Almonte automated core cutting saw. Half core is taken for sampling.</li> </ul>
<b>Quality of assay data and laboratory tests</b>	<ul style="list-style-type: none"> <li><i>The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.</i></li> <li><i>For geophysical tools, spectrometers, handheld XRF instruments, etc, the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc.</i></li> <li><i>Nature of quality control procedures adopted (e.g., standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (i.e., lack of bias) and precision have been established.</i></li> </ul>	<ul style="list-style-type: none"> <li>All samples were submitted to the Intertek Laboratories sample preparation facility at Alice Springs in the Northern Territory where a pulp sample is prepared. The pulp samples are then transported to Intertek in Perth or Townsville Australia for analysis.</li> <li>Pulp sample(s) were digested with a mixture of four Acids including Hydrofluoric, Nitric, Hydrochloric and Perchloric Acids for a total digest.</li> <li>Analysis of 2020 RC drilling; Cu, Pb, Ag, Bi, Co Ni, Sb have been determined by Inductively Coupled Plasma (ICP) Mass Spectrometry (MS-OES).</li> <li>Analysis of 2021 -22 core drilling; Ag, Al, As, Ba, Bi, Ca, Cd, Ce, Co, Cr, Cu, Fe, K, La, Li, Mg, Mn, Mo, Na, Ni, P, Pb, S, Sb, Sc, Sn, Sr, Te, Ti, Tl, V, W, Zn</li> </ul>

Criteria	JORC Code explanation	Commentary
		<p>have been determined by Inductively Coupled Plasma (ICP) Mass Spectrometry (MS-OES).</p> <ul style="list-style-type: none"> <li>• Gold was analysed by Fire Assay with a 25g charge and an ICP-MS finish with a 5ppb Au detection limit.</li> <li>• A Field Standard, Duplicate or Blank is inserted every 25 samples. The Laboratory inserts its own standards and blanks at random intervals, but several are inserted per batch regardless of the size of the batch.</li> </ul>
<p><b>Verification of sampling and assaying</b></p>	<ul style="list-style-type: none"> <li>• <i>The verification of significant intersections by either independent or alternative company personnel.</i></li> <li>• <i>The use of twinned holes.</i></li> <li>• <i>Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.</i></li> <li>• <i>Discuss any adjustment to assay data.</i></li> </ul>	<ul style="list-style-type: none"> <li>• All significant intercepts are reviewed and confirmed by at least two senior personnel before release to the market.</li> <li>• No adjustments are made to the raw assay data. Data is imported directly to Datashed in raw original format.</li> <li>• All data are validated using the QAQCR validation tool with Datashed. Visual validations are then carried out by senior staff members.</li> </ul>
<p><b>Location of data points</b></p>	<ul style="list-style-type: none"> <li>• <i>Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.</i></li> <li>• <i>Specification of the grid system used.</i></li> <li>• <i>Quality and adequacy of topographic control.</i></li> </ul>	<ul style="list-style-type: none"> <li>• All drill hole collars were located with a hand-held GPS with an accuracy of +/-5m. At the completion of the drilling program all holes were surveyed by DGPS.</li> <li>• Downhole surveys (2020 RC) were taken at 30m intervals using a Reflex single shot camera. The camera records azimuth and dip of hole.</li> <li>• Downhole surveys for the 2021 and 2022 diamond drilling were taken at 6-12m intervals by solid state gyro to maintain strong control of drill direction</li> <li>• Survey co-ordinates: GDA94 MGA Zone 53.</li> </ul>
<p><b>Data spacing and distribution</b></p>	<ul style="list-style-type: none"> <li>• <i>Data spacing for reporting of Exploration Results.</i></li> <li>• <i>Whether the data spacing, and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied.</i></li> <li>• <i>Whether sample compositing has been applied.</i></li> </ul>	<ul style="list-style-type: none"> <li>• Data spacing and distribution used to determine geological continuity is dependent on the deposit type and style under consideration. Where a mineral resource is estimated, the appropriate data spacing, and density is decided and reported by the competent person.</li> <li>• For mineral resource estimations, grades are estimated on composited assay data. The composite length is chosen based on the statistical average, usually 1m. Sample compositing is never applied to interval calculations reported to market. A sample length weighted interval is calculated as per industry best practice.</li> </ul>
<p><b>Orientation of data in relation to geological structure</b></p>	<ul style="list-style-type: none"> <li>• <i>Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.</i></li> <li>• <i>If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if</i></li> </ul>	<ul style="list-style-type: none"> <li>• Orientation of sampling is as unbiased as possible based on the dominating mineralised structures and interpretation of the deposit geometry.</li> <li>• If structure and geometry is not well understood, sampling is orientated to be perpendicular to the general strike of stratigraphy and/or regional structure.</li> </ul>

Criteria	JORC Code explanation	Commentary
	<i>material.</i>	
<b>Sample security</b>	<ul style="list-style-type: none"> <li>The measures taken to ensure sample security.</li> </ul>	<ul style="list-style-type: none"> <li>All samples remain in the custody of company geologists and are fully supervised from point of field collection to laboratory drop-off.</li> </ul>
<b>Audits or reviews</b>	<ul style="list-style-type: none"> <li>The results of any audits or reviews of sampling techniques and data.</li> </ul>	<ul style="list-style-type: none"> <li>None yet undertaken for this dataset</li> </ul>

## JORC 2012 Edition - Section 2 Reporting of Exploration Results

(Criteria listed in the preceding section also apply to this section.)

Criteria	JORC Code explanation	Commentary
<b>Mineral tenement and land tenure status</b>	<ul style="list-style-type: none"> <li>Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings.</li> <li>The security of the tenure held at the time of reporting along with any known impediments to obtaining a licence to operate in the area.</li> </ul>	<ul style="list-style-type: none"> <li>The Company controls two contiguous Exploration Licences, EL 28620 and EL30701 located east of Tennant Creek. All tenure is in good standing at the time of reporting. There are no known impediments with respect to obtaining a licence to operate in the area.</li> </ul>
<b>Exploration done by other parties</b>	<ul style="list-style-type: none"> <li>Acknowledgment and appraisal of exploration by other parties.</li> </ul>	<ul style="list-style-type: none"> <li>Several other parties have undertaken exploration in the area between the 1930s through to the present day including Posgold, Meteoric Resources and Blaze Resources.</li> </ul>
<b>Geology</b>	<ul style="list-style-type: none"> <li>Deposit type, geological setting and style of mineralisation.</li> </ul>	<ul style="list-style-type: none"> <li>The Barkly Project covers sediments of the Lower Proterozoic Warramunga Group that hosts all of the copper-gold mines and prospects in the Tennant Creek region. At the Bluebird prospect copper-gold mineralisation is hosted by an ironstone unit within a west-northwest striking fault. The ironstone cross cuts the sedimentary sequence that mostly comprises of siltstone.</li> </ul>
<b>Drill hole Information</b>	<ul style="list-style-type: none"> <li>A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes: <ul style="list-style-type: none"> <li>easting and northing of the drill hole collar</li> <li>elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar</li> <li>dip and azimuth of the hole</li> <li>down hole length and interception depth</li> <li>hole length.</li> </ul> </li> <li>If the exclusion of this information is justified on the basis that the information is not Material and this exclusion does not detract from the understanding of the report, the Competent Person should clearly explain why this is the case.</li> </ul>	<ul style="list-style-type: none"> <li>For drilling details of the 2020 RC drilling program refer to Appendix 1 of the ASX announcement of 18 March 2020 by Blina Minerals (ASX: BDI): “High-Grade Copper and Gold Intersected in Drilling program at Bluebird”</li> <li>For drilling details of the 2014 Diamond and RC programs refer to Appendix 1 of the ASX announcement of 24 September 2019 by Blina Minerals (ASX: BDI): “Strategic Acquisition of High-Grade Gold-Copper Project”.</li> </ul>
<b>Data aggregation methods</b>	<ul style="list-style-type: none"> <li>In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (e.g., cutting</li> </ul>	<ul style="list-style-type: none"> <li>All exploration results are reported by a length weighted average. This ensures that short lengths of high-grade material receive</li> </ul>



Criteria	JORC Code explanation	Commentary
	<p><i>of high grades) and cut-off grades are usually Material and should be stated.</i></p> <ul style="list-style-type: none"> <li>• <i>Where aggregate intercepts incorporate short lengths of high-grade results and longer lengths of low-grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail.</i></li> <li>• <i>The assumptions used for any reporting of metal equivalent values should be clearly stated.</i></li> </ul>	<p>less weighting than longer lengths of low-grade material.</p> <ul style="list-style-type: none"> <li>• No high-grade cut-offs are applied</li> </ul>
<b>Relationship between mineralisation widths and intercept lengths</b>	<ul style="list-style-type: none"> <li>• <i>These relationships are particularly important in the reporting of Exploration Results.</i></li> <li>• <i>If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.</i></li> <li>• <i>If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (e.g., ‘down hole length, true width not known’).</i></li> </ul>	<ul style="list-style-type: none"> <li>• Mineralisation at Bluebird is interpreted to be striking east-west true azimuth with a dip of 70-80 degrees towards 180 degrees true azimuth.</li> <li>• All holes are drilled as perpendicular as practical to the orientation of the mineralised unit and structure. Intersection lengths are interpreted to be close to true thickness.</li> </ul>
<b>Diagrams</b>	<ul style="list-style-type: none"> <li>• <i>Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported These should include, but not be limited to a plan view of drill hole collar locations and appropriate sectional views.</i></li> </ul>	<ul style="list-style-type: none"> <li>• Refer to Figure 1, a longitudinal projection through the Bluebird mineralisation including pierce point locations, and Figure 3, a representative cross section through the recent drilling. Figures 2 and 4 are plan views showing the location of the Bluebird prospect and Barkly Project respectively.</li> </ul>
<b>Balanced reporting</b>	<ul style="list-style-type: none"> <li>• <i>Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced avoiding misleading reporting of Exploration Results.</i></li> </ul>	<ul style="list-style-type: none"> <li>• All background information is discussed in the announcement.</li> <li>• Full drill results for copper and gold assays for previous drilling are shown in Appendix 1 of the ASX announcement of 18 March 2020, “High-Grade Copper and Gold Intersected in Drilling program at Bluebird”.</li> </ul>
<b>Other substantive exploration data</b>	<ul style="list-style-type: none"> <li>• <i>Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical survey results; geochemical survey results; bulk samples – size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.</i></li> </ul>	<ul style="list-style-type: none"> <li>• No other data is material to this report.</li> </ul>
<b>Further work</b>	<ul style="list-style-type: none"> <li>• <i>The nature and scale of planned further work (e.g., tests for lateral extensions or depth extensions or large-scale step-out drilling).</i></li> <li>• <i>Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.</i></li> </ul>	<ul style="list-style-type: none"> <li>• Additional drilling is planned to extend mineralisation along strike and in particular to the west and at depth.</li> <li>• Drilling of modified gravity, drone magnetic and IP data will be carried out to drill target repeats of the high-grade Bluebird copper gold shoot within the 5km Bluebird Corridor.</li> </ul>