

## High 29.6% Copper and 3.96 g/t Gold Concentrate Grades and Excellent Recoveries in Test-Work at Bluebird

Latest test-work results come as the Company prepares to launch a new drilling program at Bluebird aimed at defining a maiden Mineral Resource and testing new target zones



Figure 1: Cleaner Flotation Concentration of Chalcopyrite from BBDD0045, Bluebird Copper-Gold Discovery

Results from latest flotation test-work (Figures 1 to 3) on bulk-samples from Bluebird<sup>1</sup> diamond core holes BBDD0045 and BBDD0046 (Figure 4), have confirmed **excellent flotation recoveries and high-concentrate grades of copper (Cu) and gold (Au) exceeding commercial benchmarks<sup>2</sup>**. Test-work outcomes include:

- Cleaner flotation results from a BBDD0045 chalcopyrite (copper-sulphide) rich sample, grading 2.7% Cu and 0.47 g/t Au, **produced an exceptional concentrate grade of 29.6 % Cu and 3.96 g/t Au, while recovering 94.4% of Cu and 75.8% of Au.**
- A high-grade copper and gold sub-sample from BBDD0045, grading 9.7% Cu and 1.55 g/t Au, **yielded a concentrate grade of 26.5% Cu and 2.36 g/t Au, with significant recoveries of 98% of Cu and 57% of Au.**
- A sample from BBDD0046 (1.14% Cu and 0.08 g/t Au) that contained higher-tenor copper sulphide minerals bornite and chalcocite as well as chalcopyrite, **returned a 25.4% Cu and 1.84 g/t Au concentrate grade, while recovering 91.3% of Cu and 79.3% of Au in cleaner flotation.**

The metallurgical analysis to determine optimum copper flotation conditions and to identify an extraction pathway for unrecovered gold (~30% of Au) using gravity and leaching methods is ongoing, with further updates to follow.

The excellent flotation test-work results come as the Company prepares to launch a **new drilling program to define and extend the Bluebird discovery zone** (see longitudinal projection, Figure 5), as well as test other key targets, **with the aim of delivering a maiden copper-gold Mineral Resource with the potential to support a stand-alone mining and processing operation at Bluebird** (see Figure 6 for location). Drilling will commence as soon as road conditions allow after the recent wet season.

### Tennant Minerals CEO Vincent Algar commented:

*“Building on our significant initial copper flotation test-work results<sup>1</sup>, the latest more detailed cleaner-flotation tests, conducted over a wider range of material types, demonstrates the Bluebird copper and gold mineralisation can consistently deliver high-grade and potentially commercial copper concentrates of 24%-29% copper with gold content of up to 4 g/t. High copper recoveries which are consistently over 90%, and up to 98%, also underline the potential for positive outcomes from future economic studies into mining and extraction to produce a saleable copper and gold concentrate.*

*“Furthermore, comparisons with reported copper-with-gold traded concentrates<sup>2</sup>, and from other successful mines in the Tennant Creek area<sup>3</sup>, support the view that Bluebird concentrates have the potential to be highly valuable at current copper and gold prices - which are continuing to rise.*

*“These excellent results give us further encouragement as we prepare for our next drilling phase at Bluebird to continue expanding this exciting high-grade copper-gold discovery. Our overall goal is to establish a substantial resource base within our 100%-owned Barkly Project, which will support a stand-alone mining and processing operation at a time of increasing global demand for both copper and gold.”*

**Tennant Minerals Ltd** (ASX: TMS) (“the Company”) is pleased to announce exceptional results from metallurgical test-work of diamond drill core samples from the high-grade Bluebird copper-gold discovery in the Northern Territory (see location, Figure 6).

Bluebird is one of multiple copper-gold targets within a 5km geophysical footprint at the Company’s 100% owned Barkly Project, located on the eastern edge of the richly-endowed Tennant Creek Mineral Field (TCMF), which produced 5.5Moz of gold and 700kt of copper from 1934 to 2005<sup>4</sup> (see location, Figure 6).

Drilling to date at Bluebird has identified significant, high-grade copper-gold mineralisation over an 800m strike length and to a depth of more than 400m<sup>5,6</sup>. The mineralisation is associated with intense hematite alteration and brecciation with malachite, native copper and visible gold in the upper parts of the zone, which transitions to primary sulphide mineralisation including chalcocite, bornite and chalcopyrite.

Following earlier success using rougher flotation tests on the master composite sample from BBDD0045 (BB\_45\_1)<sup>1</sup>, **promising results have been obtained from further work on higher-grade composite samples in BBDD0045, as well as a bulk-composite from BBDD0046.** The drilling intersections from these holes are shown on cross section, Figure 4, and summarised below:

- **61.8m at 2.3% Cu, 0.4g/t Au** from 149.2m in BBDD0046<sup>5</sup>, and,
- **36.7m @ 1.14% Cu, 0.08 g/t Au** from 129.3m in BBDD0045<sup>6</sup>

A single set of optimal conditions has been determined for the treatment of fresh, transitional and very high-grade materials with no degradation in flotation performance. This enables the Company to develop an extraction process for the Bluebird copper and gold mineralisation, and other critical elements such as bismuth and cobalt, while also providing a solid foundation for an economic model for the project.

After the recent cleaner stage flotation testing of mineralised samples, the Company’s metallurgical consultant, Strategic Metallurgy, has indicated a **potentially commercial process plant using Bluebird materials could produce a copper concentrate of 24-29% Cu with a copper recovery of over 90% from all materials**, using similar conditions. Gold reports with the copper concentrate at average grades between 1.5 g/t Au and 4 g/t Au, recovering between 58% and 79% Au. The balance of the gold is reporting to flotation tails, which are the subject of on-going gravity and cyanidation test-work.

Previous mining and processing operations within the TCMF, such as at the Peko mine<sup>3</sup>, treated flotation tailings, with gravity and cyanidation leaching, to extract remnant gold after copper extraction. The presence of gold in the tails at Peko (up to ~30%<sup>3</sup>) is consistent with the results to date from Bluebird, and the Company is doing further work to develop this part of the processing circuit to substantially increase gold recovery.

## METALLURGICAL FLOTATION RESULTS – CLEANER AND VARIABILITY TESTS

The Bluebird test-work program has proceeded to cleaner flotation tests and variability testing (see flow-sheet for cleaner flotation shown in the Figure 2), which involves regrinding the flotation product from the rougher cells and re-floating them. This is an industry standard process and it is commonly used in the processing of copper-rich sulphide ores.

Overall, four representative diamond core samples have now been tested, each with slightly different characteristics, allowing the Company to assess the behaviour of different ore types and groupings. Table 1 below gives a description of the samples tested to date. The combined recovery curves for each of the optimised tests and results are shown in Figure 3 and Table 2 respectively. These recovery curves and high copper grades indicate the presence of significant amounts of higher-tenor copper minerals, bornite and chalcocite in addition to the primary ore mineral - chalcopyrite.

**The cleaner test-work results have clearly demonstrated flexibility in producing various concentrate grades, with the possibility of producing copper concentrate with grades ranging from 24% to 29% and very high recoveries of over 90%, and up to 98%, from all composites.**

Composite sample BB\_45\_AD, representing a complete intersection of typical mineralisation at Bluebird (grading 2.7% Cu, and 0.47g/t Au), **yielded an impressive cleaner concentrate result of 29.6% Cu and 3.96g/t Au, recovering 94.4% of Cu and 75.8% of Au.**

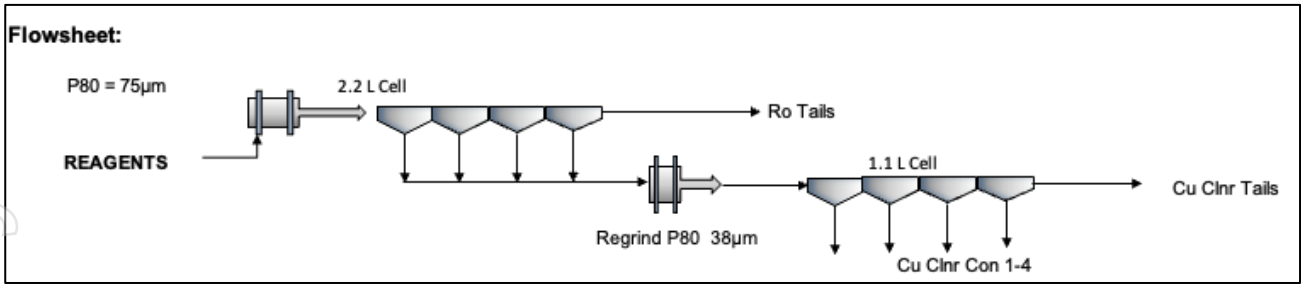
The shorter, very high-grade copper interval tested in BB\_45\_AD\_H (see Table 1), contained high copper and increased gold (9.7% Cu and 1.55 g/t Au) compared to the wider intersections. **The cleaner concentrate produced graded 26.5% Cu and 2.36 g/t Au, with an impressive 98.2% of Cu and 56.9% of gold recovered.**

The sample tested from drillhole BBDD0046, which is vertically above BBDD0045 (see cross section, Figure 4), and intersected mineralisation at a shallower depth, contained more transitional copper minerals such as bornite and chalcocite and returned an **impressive 25.4% Cu, 1.84 g/t Au concentrate grade, recovering 91.3% of Cu and 79.3% of Au in cleaner flotation.**

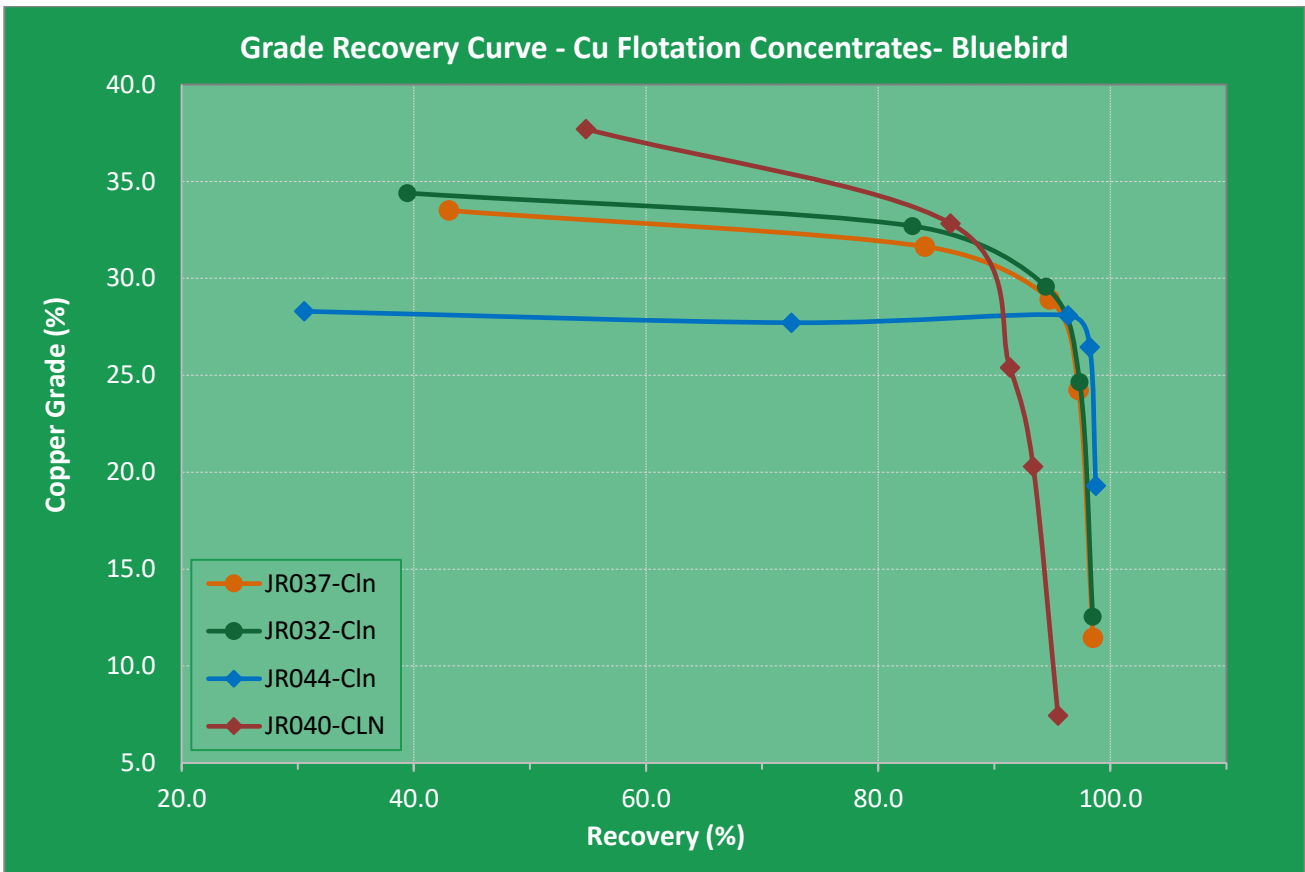
The concentrates produced are comparable to commercial copper concentrates grading 26% Cu, 1.1g/t Au (Copper Concentrate TC index MB-CU-0287 by FastMarkets)<sup>2</sup>, as well as historical concentrates produced previously in the TCMF grading 24.7% Cu from the Peko Mine and 26.5% Cu from the Warrego Mine<sup>3</sup>. This gives confidence to the Company when considering future economic studies on Bluebird Mineral Resources.

**Table 1 Variability sample descriptions for Bluebird Flotation test work.**

Drillhole/ sample name	Interval	Description	Composite Grade (assayed)
BBDD0045/BB_45_1	154m – 200.7m (46.7m)	Brecciated ironstone, hematitic siltstone with zones of intense copper mineralisation including massive chalcopyrite and veinlets of bornite and chalcocite.	3.4% Cu, 0.17g/t Au, 19% Fe
BBDD0045/BB_45_AD	149.2m – 200.7m (51.5m)	As above	2.7% Cu, 0.47 g/t Au, 20% Fe
BBDD0045/BB_45_AD_H	149.2m – 161.9m (12.7m)	Brecciated ironstones with zones of intense copper mineralisation including massive chalcopyrite and veinlets or bornite and chalcocite.	9.7% Cu, 1.55g/t Au, 27% Fe
BBDD0046/BB_46_1	129.3m – 166m (36.7m)	Brecciated ironstones, hematitic siltstones with intense copper mineralisation including stringer chalcopyrite and traces of bornite and chalcocite.	1.14% Cu, 0.08g/t Au, 22% Fe



**Figure 2: Cleaner flotation circuit flowsheet**



**Figure 3: Copper Concentrate Recovery Curve –Cleaner Flotation Concentrates Bluebird**

**Table 2: Table of Flotation cleaner concentrate, feed and recovery, Cu-Au, Bluebird**

Met sample /Job Number	Calculated Feed		Weight % of Feed	Concentrate Grade and Recovery			
	Cu	Au		Cu	Recovery	Au	Recovery
	(%)	(g/t)		(%)	(%)	(g/t)	(%)
BB_45_1/ JR0037	2.16	0.22	8.68	24.2	97.3	1.5	58.2
BB_45_AD/ JR032	2.18	0.36	6.97	29.6	94.4	3.96	75.8
BB_45_AD_H/ JR044	8.75	1.35	32.5	26.5	98.2	2.36	56.9
BB_46_1 / JR040	1.29	0.11	4.65	25.4	91.3	1.84	79.3

## ONGOING AND FUTURE METALLURGICAL WORK

The excellent results achieved from test-work to date are highly encouraging for the development of a simple and straightforward processing pathway to deliver economic copper and gold concentrates from any future operation at Bluebird. The ultimate purpose of this initial phase of metallurgical test-work on the Bluebird bulk samples is to understand the extractive behavior of the copper and gold in the mineralisation, and use this information to develop a preliminary processing circuit design for the identified mineralisation.

More work is being carried out in the following areas to improve our understanding of the metallurgical behaviour of the Bluebird mineralisation;

- Refining optimal conditions for all material types to simplify the processing circuit design and maximise the economic outcome.
- Gold recoveries in copper flotation concentrates in results to date range from 58-70% of Au. Further investigation into this variability of gold recovery, and refinement of the method for recovery of the remaining gold in copper concentrate tailings, is being investigated. Further work will also optimize recovery of gold in gravity concentrates as previously reported to the ASX<sup>1</sup>. Given current high gold prices, this work is very important for the project.
- Test-work to date has been completed on fresh and partly oxidised copper sulphides. Identification of other mineralisation types requires further test-work on different sample materials to ensure all materials, that may report to a future plant are understood and accounted for in testing.

## NEXT STAGE OF DRILLING PLANNED TO DEFINE AND EXPAND BLUEBIRD FOOTPRINT

The Company is finalising a new drilling program at Bluebird (see proposed new drillholes on longitudinal projection, Figure 5) and along the highly prospective 2.5km Bluebird-Perseverance Corridor. This drilling program will commence once roads damaged by heavy rain in the Tennant Creek area are repaired, enabling a drilling crew to be mobilised to the site.

Drilling is expected to include both reverse circulation (RC) and diamond drilling to test priority targets.

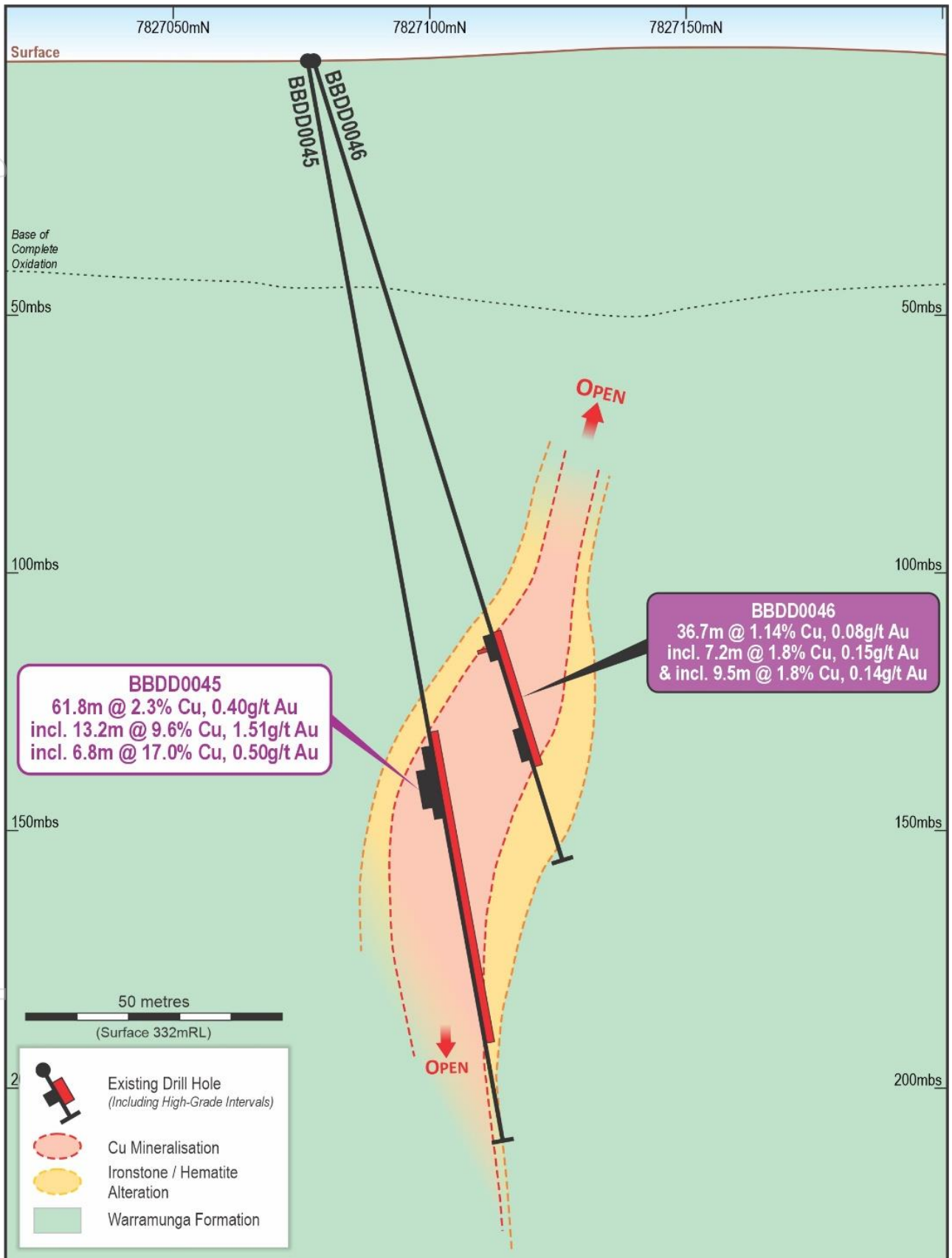
The dual objectives of drilling within the Bluebird-Perseverance Corridor during 2024 are:

- a) Further test and extend the high-grade copper-gold mineralised zone at Bluebird to define a maiden Mineral Resource for the project, and,
- b) to drill test multiple Bluebird 'look-alike' targets along strike and at depth (see Figure 5).

The significant combined gravity-magnetic target at the Perseverance prospect, where previous high-grade drilling results of up to **3m @ 50 g/t Au**<sup>7</sup> have been identified, represents one such high-priority drilling target which could expand the scale of the Bluebird-Perseverance mineralised footprint.



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**Figure 4: Bluebird cross section 448,300mE showing high-grade copper intersections in BBDD0045 and BBDD0046. Metallurgical Samples described in Table 1 are extracted from these drillhole intervals.**

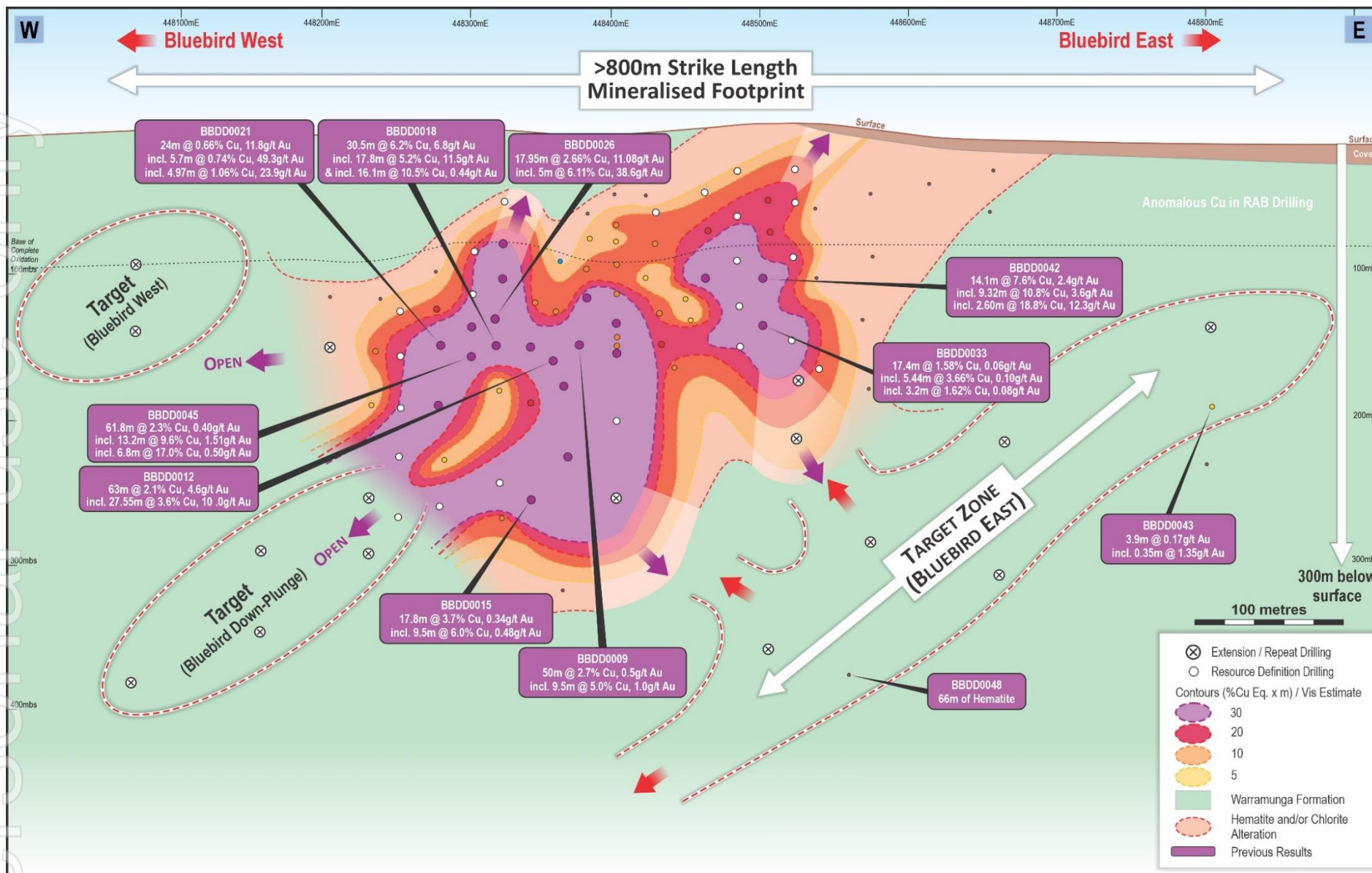


Figure 5: Bluebird longitudinal projection showing key copper-gold intersections, the mineralised zone, new targets and planned drilling.

## ABOUT THE BARKLY PROJECT AND THE BLUEBIRD COPPER-GOLD DISCOVERY

The high-grade Bluebird copper-gold discovery is part of the Company's 100% owned Barkly Project which comprises two exploration licences located 40km east of Tennant Creek in the Northern Territory. The mineralisation intersected at Bluebird is typical of the high-grade copper-gold orebodies previously mined in the Tennant Creek Mineral Field, which produced over 5.5Moz of gold and over 700kt of copper from 1934 to 2005<sup>4</sup> (see Figure 6 below).

Drilling to date at Bluebird has identified copper-gold mineralisation over an 800m strike length and to a depth of more than 400m. The mineralisation is associated with intense hematite alteration and brecciation with malachite, native copper and visible gold in the upper parts of the zone, which transitions to primary sulphide mineralisation including chalcocite, bornite and chalcopyrite.

The Company has adopted a dual strategic approach of defining the Mineral Resource potential of Bluebird whilst also testing other key targets in the expanded 2.5km Bluebird-Perseverance corridor.

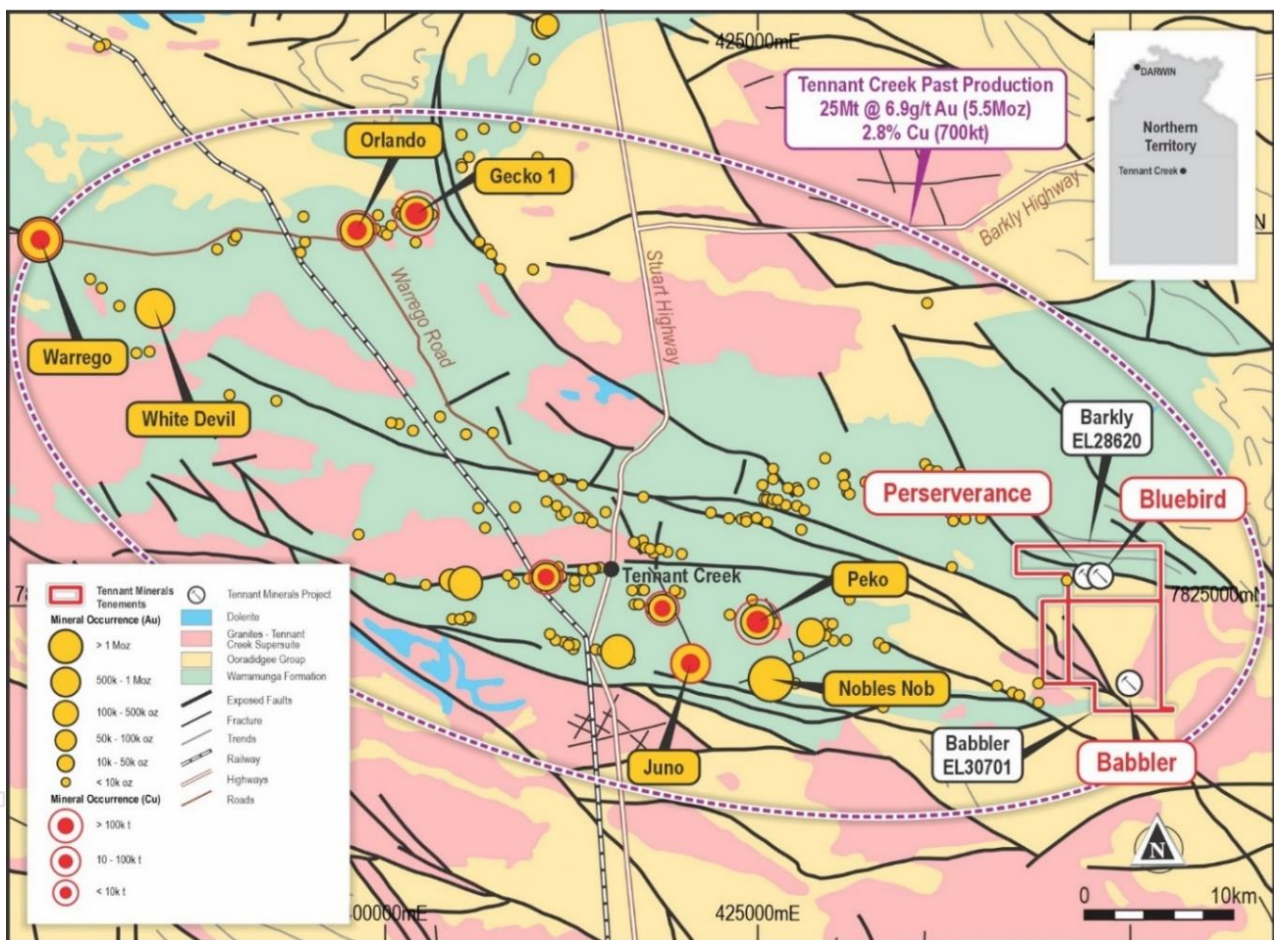


Figure 6: Location of the Barkly Project and major historical mines in the Tennant Creek Mineral Field.

## REFERENCES

- <sup>1</sup> 26/03/2024. Tennant Minerals (ASX.TMS): "Bluebird Metallurgy Delivers 23% Cu, 1.5g/t Au Concentrate".
- <sup>2</sup> <https://www.fastmarkets.com/methodology/metals/copper-concentrates-index/>
- <sup>3</sup> Kyte, W, J, 1969, Auslmm Bulletin, Ore Treatment by Peko Mines NL
- <sup>4</sup> Portergeo.com.au/database/mineinfo. Tennant Creek: Gecko, Warrego, White Devil, Nobles Nob, Juno, Peko, Argo.
- <sup>5</sup> 12/02/2024. Tennant Minerals (ASX.TMS): "Exceptional 61.8m 2.3% Copper Intersection at Bluebird".
- <sup>6</sup> 22/01/2024. Tennant Minerals (ASX.TMS): "New Copper Intersection Extends Bluebird Over 400m Depth".
- <sup>7</sup> 11/03/2024. Tennant Minerals (ASX.TMS): "New Drilling to Test Expanded 2.5km Footprint at Bluebird".

Authorised for release by the board of directors.

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



**For enquiries please contact:**

**Vincent Algar**  
**Chief Executive Officer**  
**P: +61 (08) 9481 7833**

**Stuart Usher**  
**Company Secretary**  
**M: +61 (0) 499 900 044**

## **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 PERSON DECLARATIONS**

The information in this release that relates to Metallurgical Results and Interpretations is based on information compiled by Nick Vines, Executive Director at Strategic Metallurgy Pty Ltd. Mr Vines is a Member of the Australasian Institute of Mining and Metallurgy (AusIMM) and has sufficient experience which is relevant to the metallurgical test work on 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 for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. Mr Vines consents to the inclusion in the release of the matters based on this information in the form and context in which it appears.

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 announcement the Company has relied on the announcements previously made by the Company as listed under "References". 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

### 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>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.</li> <li>Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.</li> <li>Aspects of the determination of mineralisation that are Material to the Public Report.</li> <li>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.</li> </ul>	<ul style="list-style-type: none"> <li>The exploration results noted in this report have been disclosed previously – as referenced in this report. The key disclosure points are carried over and included below in this report.</li> <li>The presentation of exploration results is based on information and data collected and prepared using industry standard practices or better, including, logging protocols, sampling, assay methods, and appropriate quality assurance quality control (QAQC) measures.</li> <li>The mineralised intervals of BBDD0045 form part of a sample composite selected and submitted for mineral processing and metallurgical test-work. The samples from BBDD0045 form the composited metallurgical sample for which the initial results are discussed in this report.</li> <li>The drill core was split in half and one half was split again. The ½ core was sampled and submitted for the stated test-work, ¼ of the core remains in the core tray and ¼ was submitted for assay (this report refers to the ¼ core samples sent for assay). All sample sets were divided by the same sample intervals from the logging of the HQ core.</li> <li>Other diamond core results in this report are from ½ HQ core.</li> <li>Where relevant, Reverse Circulation (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 selected for analysis, 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 as per the core sample methods outlined here.</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>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).</li> </ul>	<ul style="list-style-type: none"> <li>Diamond drillholes were collared using RM or RC drilling and switched to HQ3 approximately 30m before the target position is intersected. All coordinates are quoted in GDA94 datum unless otherwise stated.</li> <li>RC drilling was conducted using a 5<sup>1</sup>/<sub>4</sub>" face sampling hammer, with holes drilled from -45 to -60 degrees.</li> <li>Rotary mud (RM) drilling was completed with 126mm PCD hammer with holes drilled from -45 to -60 degrees.</li> <li>Some holes in this report were started as 'RC' drill holes and changed to core when drilling difficulties</li> </ul>

Criteria	JORC Code explanation	Commentary
		were encountered (in these cases the original 'RC' reference in the hole ID was not changed).
<b>Drill sample recovery</b>	<ul style="list-style-type: none"> <li>Method of recording and assessing core and chip sample recoveries and results assessed.</li> <li>Measures taken to maximise sample recovery and ensure representative nature of the samples.</li> <li>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.</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> <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>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.</li> <li>Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.</li> <li>The total length and percentage of the relevant intersections logged.</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 drill-core 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>If core, whether cut or sawn and whether quarter, half or all core taken.</li> <li>If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.</li> <li>For all sample types, the nature, quality and appropriateness of the sample preparation technique.</li> <li>Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.</li> <li>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.</li> <li>Whether sample sizes are appropriate to the grain size of the material being sampled.</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> <li>Metallurgical samples have been prepared by selection half/ quarter core from multiple intervals to create samples representing the mineralogy of prospective ore. Core samples were crushed to - 3.35mm and homogenised into 1 kg subsample charges for test work.</li> </ul>
<b>Quality of assay data and laboratory tests</b>	<ul style="list-style-type: none"> <li>The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.</li> <li>For geophysical tools, spectrometres, handheld XRF instruments, etc, the parametres used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc.</li> </ul>	<ul style="list-style-type: none"> <li>All samples reported here were submitted to Intertek Laboratories in Perth for sample preparation analysis. (In previous programs some submissions were submitted to Intertek facilities in the Northern Territory).</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 all drilling samples have been determined by Inductively Coupled Plasma (ICP) Mass</li> </ul>

Criteria	JORC Code explanation	Commentary
	<ul style="list-style-type: none"> <li>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.</li> </ul>	<p>Spectrometry (MS-OES) and usually includes the elements Ag, Al, As, Ba, Be, Bi, Ca, Cd, Ce, Co, Cr, Cs, Cu, Dy, Er, Eu, Fe, Ga, Gd, Ge, Hf, Ho, In, K, La, Li, Lu, Mg, Mn, Mo, Na, Nb, Nd, Ni, P, Pb, Pr, Rb, Re, S, Sb, Sc, Se, Sm, Sn, Sr, Ta, Tb, Te, Th, Ti, Tl, Tm, U, V, W, Y, Yb, Zn, Zr.</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>
<b>Verification of sampling and assaying</b>	<ul style="list-style-type: none"> <li>The verification of significant intersections by either independent or alternative company personnel.</li> <li>The use of twinned holes.</li> <li>Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.</li> <li>Discuss any adjustment to assay data.</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>
<b>Location of data points</b>	<ul style="list-style-type: none"> <li>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.</li> <li>Specification of the grid system used.</li> <li>Quality and adequacy of topographic control.</li> </ul>	<ul style="list-style-type: none"> <li>All drill hole collars were located initially with a hand-held GPS with an accuracy of +/-3m. At the completion of the drilling program all holes were surveyed by DGPS.</li> <li>Downhole surveys (2023 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 2023 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>
<b>Data spacing and distribution</b>	<ul style="list-style-type: none"> <li>Data spacing for reporting of Exploration Results.</li> <li>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.</li> <li>Whether sample compositing has been applied.</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>No mineral resource estimations have occurred to date.</li> </ul>
<b>Orientation of data in relation to geological structure</b>	<ul style="list-style-type: none"> <li>Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.</li> <li>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 material.</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>
<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 holds 100% of 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-north-west 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 programs completed prior to Tennent Minerals control, such as the 2020 RC drilling program or earlier 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 of high grades) and cut-off grades are usually Material and should be stated.</li> <li>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.</li> <li>The assumptions used for any reporting of metal equivalent values should be</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 less weighting than longer lengths of low-grade material.</li> <li>No high-grade cut-offs are applied.</li> <li>A high gold ‘nugget effect’ may exist in some samples at the Bluebird deposit.</li> </ul>

Criteria	JORC Code explanation	Commentary
	clearly stated.	
<b>Relationship between mineralisation widths and intercept lengths</b>	<ul style="list-style-type: none"> <li>• These relationships are particularly important in the reporting of Exploration Results.</li> <li>• If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.</li> <li>• 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').</li> </ul>	<ul style="list-style-type: none"> <li>• Mineralisation at Bluebird is interpreted to be striking east-west 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> <li>• The angle of intersection of BBDD0045 is illustrated in cross section, Figure 4. True width of this interval could be around 40-60% of the downhole interval.</li> </ul>
<b>Diagrams</b>	<ul style="list-style-type: none"> <li>• 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.</li> </ul>	<ul style="list-style-type: none"> <li>• The information in this report relates primarily to an ongoing metallurgical testing program and no new exploration information or results are provided. Some Figures have been carried over from previously released exploration results and the appropriate references are made.</li> <li>• Figure 5 illustrates a longitudinal projection of the Bluebird mineralisation including pierce point locations.</li> <li>• Figure 6 is a regional location map of Barkly Project.</li> </ul>
<b>Balanced reporting</b>	<ul style="list-style-type: none"> <li>• 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.</li> </ul>	<ul style="list-style-type: none"> <li>• All relevant background information is discussed in the announcement.</li> <li>• Full drill results for copper and gold assays for drilling previous to 2021 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>• 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.</li> </ul>	<ul style="list-style-type: none"> <li>• Metallurgical test-work and associated data has been provided in the body of this release.</li> <li>• Metallurgical factors: Recovery and grade data have been presented in an 'as is' format. No factors or adjustments have been made by interpreting the results and all recovery data has been determined by standard laboratory flotation techniques in an open circuit flowsheet.</li> <li>• The results of metallurgical test-work reported in this release demonstrate that the material tested from drill holes is amenable to conventional concentration and recovery techniques.</li> </ul>
<b>Further work</b>	<ul style="list-style-type: none"> <li>• The nature and scale of planned further work (e.g., tests for lateral extensions or depth extensions or large-scale step-out drilling).</li> <li>• Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.</li> </ul>	<ul style="list-style-type: none"> <li>• Additional drilling is planned to define and extend the mineralisation locally and at targets near to Bluebird. Resource definition drilling will then be carried out prior to Mineral Resource estimation.</li> <li>• Regional targeting will utilise modelling of gravity and a drone magnetic survey data as well as detailed IP resistivity survey data to drill target repeats of the high-grade Bluebird copper gold discovery within the 5km Bluebird Corridor and at the Babler project to the south.</li> <li>• Further metallurgical test-work is planned to test the variability of the orebody, and to optimise the grade and recovery of metals into the concentrates.</li> </ul>