Exceptional Copper and Gold Results from Bluebird Eastern Extension

- ***New results include a 2.6m zone of 18.8% copper and 12.3 g/t gold within a thick and high-grade intersection of 14.1m @ 10.4% CuEq* (7.6% Cu, 2.4g/t Au, 0.32% Bi)***

- **High-grade copper and gold results received from the eastern extension of the high-grade Bluebird discovery including an exceptionally high-grade zone of:**
  - **2.6m @ 18.8% copper (Cu), 12.3 g/t gold (Au) and 1.08% bismuth (Bi)** from 97.38m
- **These are the highest grade results received to date from the shallow extension of the Bluebird discovery and are part of a thick and relatively shallow (80m below surface) high-grade copper-gold intersection in diamond drillhole BBDD0042 of:**
  - **14.1m @ 10.4% CuEq*** (**7.6% Cu, 2.4g/t Au, 0.32% Bi**) from 90.64m downhole,

    incl. **9.3m @ 14.7% CuEq*** (**10.8% Cu, 3.6 g/t Au, 0.38% Bi**) from 95.4m, and,

    incl. **2.6m @ 31.5% CuEq*** (**18.8% Cu, 12.3 g/t Au, 1.08% Bi**) from 97.38m.
- **Assay results pending from this ongoing program, which is testing targets across the 1.5km target corridor at Bluebird, include four strongly mineralised holes in three key target areas**, **including:**
  - **BBRC0026: 58.5m zone of hematite with 22.5m of visible copper mineralisation from less than 40m below surface at the Bluebird eastern extension, indicating the potential for initial open pit mining at Bluebird** (see Figure 1).
  - **BBDD0043: 24m zone of chlorite-silica-hematite alteration including 8m of copper mineralisation[1] (chalcocite, malachite) in the Bluebird East target zone. Further drilling of this potentially important discovery is in progress, targeting a repeat of the Bluebird high-grade copper-gold mineralised zone** (see Figures 2, 3 and 4).
  - **BBDD0045 and BBDD0046[1]: strong to intensely mineralised intersections in the Bluebird western high-grade gold-copper zone** (Figure 3). **Drill core is being sampled for metallurgical composites and assay. Metallurgical test work will include gravity concentration of free gold and native copper, followed by flotation tests to produce high-grade copper concentrate.**

Tennant Minerals acting Chairman Neville Bassett commented:

"This latest intersection has again demonstrated the widespread and exceptional copper and gold grades along the entire identified strike-length of the Bluebird discovery.

"Mineralisation has been intersected from 40m below surface, indicating potential to access the top of the deposit via an open pit, before continuing as a long life underground mine.

"We continue drilling the Bluebird East discovery, which has the potential to be a repeat of the Bluebird high-grade copper-gold zone drilled to date, further enhancing the project's development potential."

**Refer Appendix 1 for copper equivalent (CuEq) calculations.*

Tennant Minerals Ltd ("Tennant" or "the Company") (ASX:TMS) is pleased to announce **further exceptionally high-grade copper and gold results** from diamond drilling at the shallow eastern extension of the Bluebird discovery (see Figures 1, 2 & 3) at the 100%-owned Barkly Project in the Northern Territory.

The new results are from the current phase of the ongoing, drilling program which has to date comprised 15 holes for around 3,000m[1] (see Table 1 for significant intersections and Table 2 for drillhole details).

These first new drilling results from diamond drillhole BBDD0042 in the shallow eastern extension of the Bluebird discovery (see Figures 1 and 2), include an **exceptionally high-grade zone of 18.8% copper (Cu), 12.3 g/t gold (Au)** within a thick and high grade copper and gold intersection which includes:

- **14.1m @ 10.4% CuEq*** (**7.6% Cu, 2.4g/t Au, 0.32% Bi**) from 90.64m downhole,

  incl. **9.3m @ 14.7% CuEq*** (**10.8% Cu, 3.6 g/t Au, 0.38% Bi**) from 95.4m, and,

  incl. **2.6m @ 31.5% CuEq*** (**18.8% Cu, 12.3 g/t Au, 1.08% Bi**) from 97.38m.

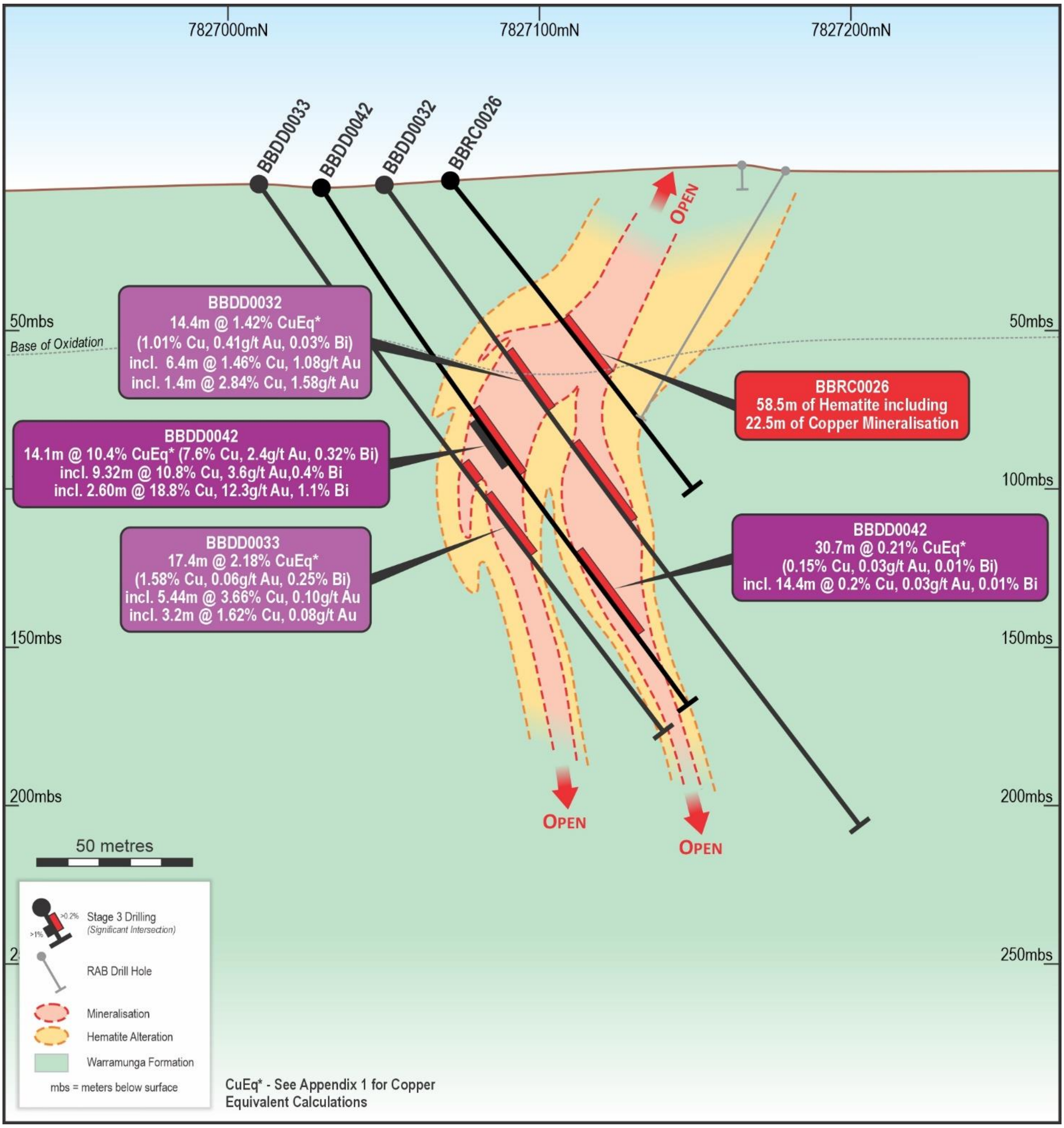

Figure 1: Bluebird cross section 448,500mE showing new high-grade copper and gold intersection in BBDD0042

**Refer Appendix 1 for copper equivalent (CuEq) calculations.*

Shallow drilling on the same section in hole BBRC0026 (Reverse Circulation (RC) with a diamond tail), intersected a **58.5m zone of hematite alteration from 10m downhole with 22.5m of visible copper mineralisation from 46m downhole**, or less than 40m vertically below surface (see Figure 1, & refer to Appendix 2 for descriptions of mineralisation). The intersection of significant mineralisation at these shallow depths indicates potential for initial open pit mining at Bluebird, before continuing as a longer term underground mine.

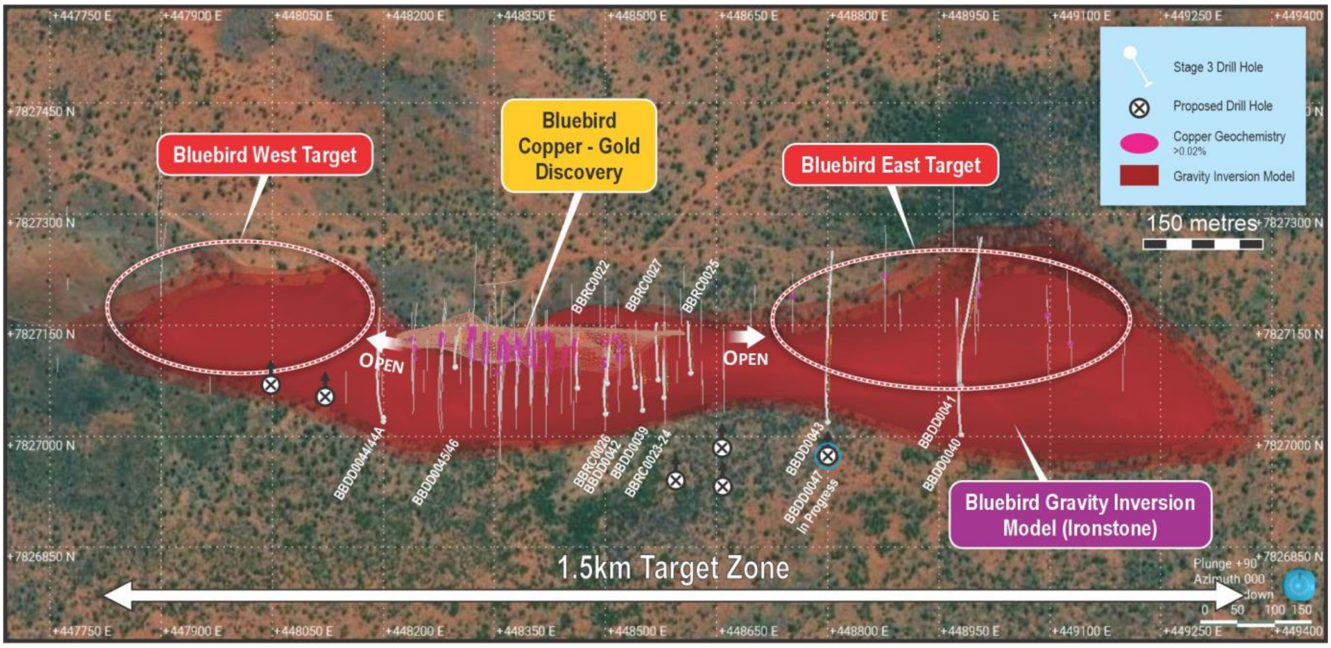

Figure 2: Bluebird plan projection showing currently drilled mineralisation model, 3D gravity inversion model and current and planned drilling.

Drilling is now continuing to test the new **Bluebird East discovery** (see Figure 3), where previously announced drillhole BBDD0043[1] intersected a **24m zone of chlorite-silica-hematite alteration and sulphide mineralisation including 8m of copper mineralisation** (chalcocite, malachite) (see cross section, Figure 4, and Appendix 2 for descriptions of mineralisation)[1]. Results for this hole are expected within 4 to 6 weeks.

The intersection of copper mineralisation in the footwall of the Bluebird ironstone at Bluebird East[1] is highly significant, as it may indicate the discovery of a repeat of the Bluebird high-grade copper-gold zone. Further drilling is now testing the down-plunge extensions of this zone extending west, where the ironstone and mineralisation are indicated to extend by gravity, detailed drone magnetics and IP resistivity modelling (see Figures 2, 3 and 4).

The discovery of a repeat of Bluebird at Bluebird East would represent potential to double the footprint of the copper-gold mineralised zone (see Figure 3 & 4).

Cautionary note regarding visual estimates:
In relation to the disclosure of visual mineralisation above, within the text below and as detailed in Appendix 2, 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. Assay results for the majority of this program are expected to be available within the next 2-6 weeks. Target mineral abundances are estimated along with general geological descriptions.

**Refer Appendix 1 for copper equivalent (CuEq) calculations.*

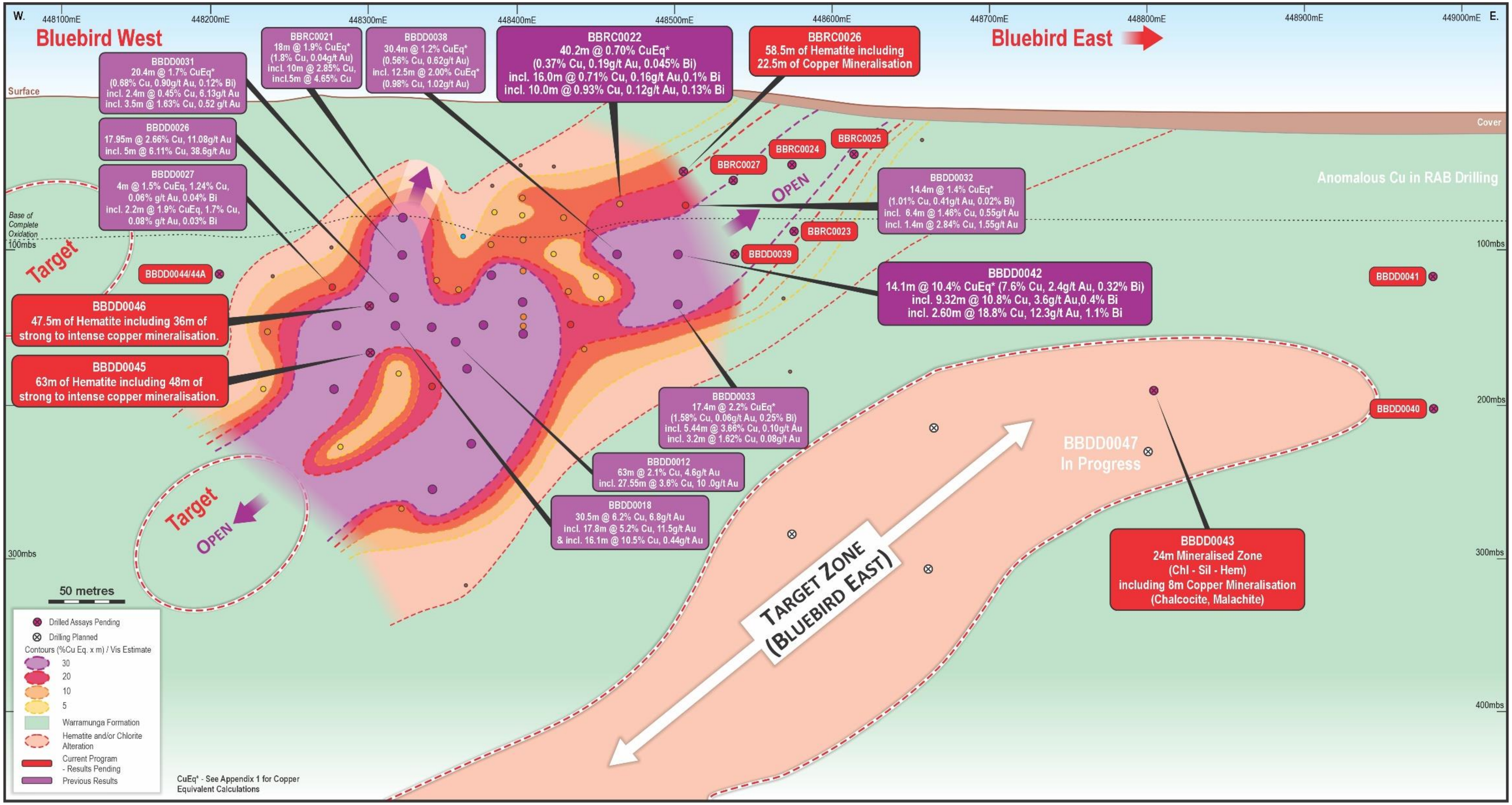

Figure 3: Bluebird longitudinal projection showing key copper-gold intersections, new high-grade copper and gold intersections planned drilling of the Bluebird East Target

**Refer Appendix 1 for copper equivalent (CuEq) calculations.*

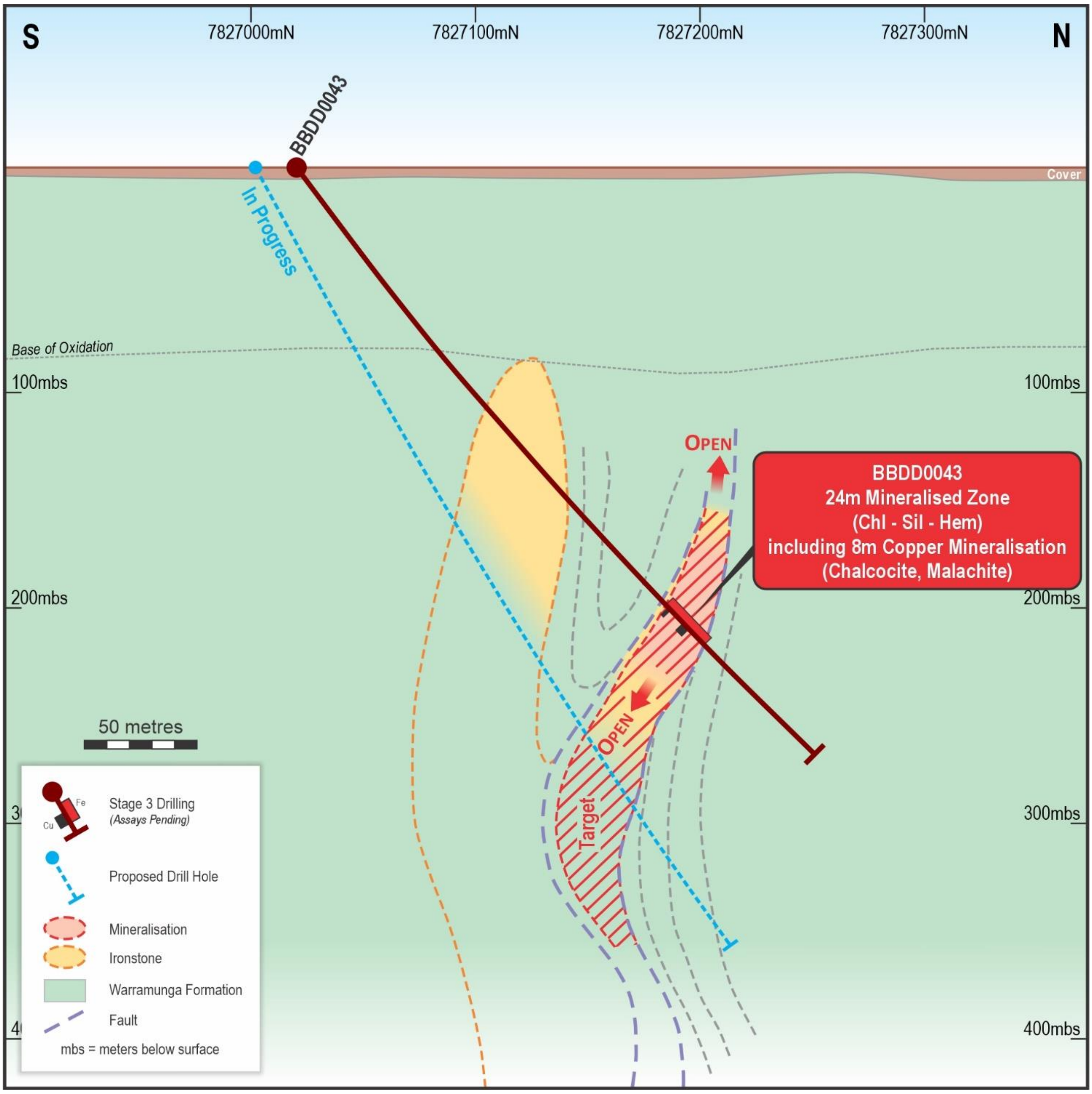

Figure 4. Bluebird East Cross-section 448,800mE, with significant hematite and copper intersection in BBDD0043

Drilling results from further mineralised intersections within the Bluebird Eastern Extension and from strong to intensely mineralised intersections in the Bluebird western high-grade zone[1] are expected within the next 4 to 6 weeks (see Appendix 2 for descriptions of mineralisation).

Other targets remaining to be tested include western, down-plunge, extensions of the main copper-gold zone at Bluebird and geophysical targets at Bluebird West. Northern Territory government co-funding will be sought to test the deeper targets and other regional targets such as Perseverance North and at Babbler (see Figure 5).

Bulk metallurgical composite samples will be generated from the strongly mineralised holes in the western high-grade zone, BBDD0045 and 0046[1], which tested the western high-grade gold-copper zone of the Bluebird deposit. This work will include flotation tests for sulphide mineralisation as well as gravity concentration tests for native copper and free gold.

Mineral Resource modelling will be carried out after receipt of results from the current drilling program at Bluebird.

**Refer Appendix 1 for copper equivalent (CuEq) calculations.*

ABOUT THE BARKLY PROJECT AND THE BLUEBIRD COPPER-GOLD DISCOVERY

The high-grade Bluebird copper-gold discovery is located within the Company's 100% owned Barkly Project, on the eastern edge of the richly endowed Tennant Creek Mineral Field, which **produced over 5.5Moz of gold and over 700kt of copper** from 1934 to 2005[2] (see Figure 5 below).

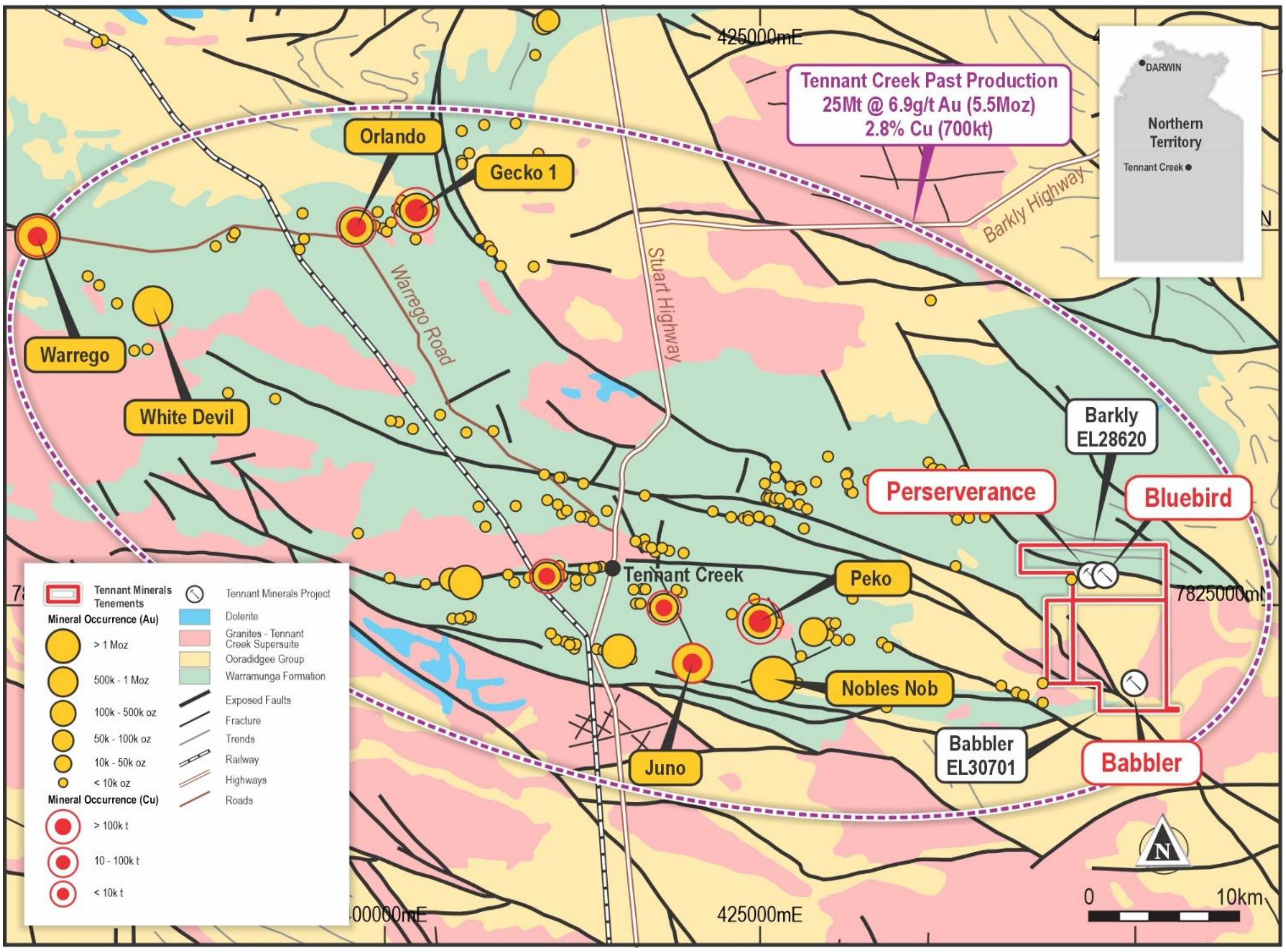

Figure 5: Location of the Barkly Project and major historical mines in the Tennant Creek Mineral Field

The mineralisation intersected at Bluebird is typical of the high-grade copper-gold orebodies in the Tennant Creek Mineral Field. The high-grade mineralisation is associated with intense hematite alteration and brecciation with secondary malachite (copper-carbonate) in the upper parts as well as native copper, which transitions to primary sulphide mineralisation at depth e.g. chalcocite, bornite and chalcopyrite.

Drilling to date has identified copper-gold mineralisation at Bluebird over a 500m strike length and to over 250m depth. The mineralisation remains completely open in all directions (Figures 2 and 3).

The Company has the dual approach of defining the Mineral Resource potential of the Bluebird discovery while also testing other key targets in the Bluebird-Perseverance corridor based on gravity, magnetics and IP resistivity survey modelling[3].

Authorised for release by the board of directors.

******ENDS******

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**Refer Appendix 1 for copper equivalent (CuEq) calculations.*

Table 1: New Significant Intersections in this release:

Hole #	From (m)	To (m)	Interval (m)	Cu Eq. (%)	Cu (%)	Au (g/t)	Ag (g/t)	Bi (%)	Co (g/t)	Fe (%)	Cut-off
BBDD0042	90.64	106.4	**15.8**	**9.3**	**6.8**	**2.2**	5.5	0.29	124	28.9	0.3% Cu
incl.	90.64	104.72	**14.1**	**10.4**	**7.6**	**2.4**	6.1	0.32	134	28.4	0.4% Cu
incl.	91.8	104.72	**12.9**	**11.2**	**8.2**	**2.6**	6.7	0.32	136	28.4	1.0% Cu
incl.	95.4	104.72	**9.3**	**14.7**	**10.8**	**3.6**	8.4	0.38	185	28.7	3.0% Cu
incl.	97.38	99.98	**2.6**	**31.5**	**18.8**	**12.3**	15.8	1.08	288	22.0	10% Cu
BBDD0042	144.0	174.67	**30.7**	**0.21**	**0.15**	**0.03**	0.2	0.01	41	9.4	0.1% Cu
incl.	160.26	174.67	**14.4**	**0.27**	**0.20**	**0.03**	0.3	0.01	49	13.4	0.15% Cu
BBRC0022	83.0	123.2	**40.2**	**0.70**	**0.37**	**0.19**	0.58	0.045	158	23	0.1% Cu
incl.	83.0	99.0	**16**	**1.13**	**0.71**	**0.16**	0.15	0.103	172	14	0.3% Cu
Incl.	85.0	95.0	**10**	**1.32**	**0.93**	**0.12**	0.11	0.126	39	22	0.5% Cu

Table 2: Bluebird Stage 3 extension drillhole details (MGA_94_Z53S)

Hole #	Dip°	Az Grid°	GRID_E	GRID_N	RL	Pre-Collar/RC	DDC	Depth	Hole Type
BBDD0026	-60	0	448,320	7,827,060	330	122.7	96.7	219.4	DD
BBDD0027	-60	0	448,280	7,827,061	330	101.5	115.9	217.4	DD
BBDD0028	-65	0	448,280	7,827,010	330	122	0	122	DD
BBDD0028A	-67	352	448,280	7,827,004	330	147.2	213.2	360.4	DD
BBDD0029	-60	0	448,274	7,827,085	332	71.8	108.7	180.5	DD
BBDD0030	-60	357	448,238	7,827,061	331	96.2	122.8	219	DD
BBDD0031	-53	358	448,320	7,827,063	330	-	204.3	204.3	DD
BBDD0032	-53	0	448,500	7,827,049	329	78.1	178.9	257	DD
BBDD0033	-53	358	448,498	7,827,011	328	71.6	147.1	218.7	DD
BBDD0034	-53	357	448,580	7,827,016	327	72	269.1	341.1	DD
BBDD0035	-55	353	448,578	7,827,035	327	29.5	136.7	166.2	DD
BBDD0036	-54	360	448,660	7,827,049	327	-	163.5	163.5	DD
BBDD0037	-55	357	448,660	7,827,035	326	51.1	138.7	189.8	DD
BBDD0038	-55	0	448,459	7,827,044	329	74.8	82	156.8	DD
BBDD0039	-55	356	448,546	7,827,034	328	59.9	70.8	130.7	DD
BBDD0040	-55	356	448,979	7,827,003	323	80.7	272.9	353.6	DD
BBDD0041	-51	356	448,977	7,827,060	324	119.8	159.3	279.1	DD
BBDD0042	-57	355	448,497	7,827,032	329	66	137.9	203.9	DD
BBDD0043	-51	355	448,803	7,827,018	325	98.3	248.9	347.2	DD
BBDD0044	-53	354	448,197	7,827,032	331	144	-	144	DD
BBDD0044A	-57	345	448,198	7,827,027	331	143.6	129	272.6	DD
BBDD0045	-79	357	448,298	7,827,091	332	78	153.9	231.9	DD
BBDD0046	-79	357	448,298	7,827,091	332	78	102.6	180.6	DD
BBRC0021	-52	359	448,320	7,827,081	330	150	-	150	RC
BBRC0022	-54	356	448,458	7,827,064	330	106.2	28.4	134.6	RCD
BBRC0023	-56	357	448,579	7,827,052	328	174	-	174	RC
BBRC0024	-50	357	448,571	7,827,075	330	126	-	126	RC
BBRC0025	-55	358	448,614	7,827,086	329	126	-	126	RC
BBRC0026	-50	0	448,501	7,827,071	330	54	71.6	125.6	RCD
BBRC0027	-50	353	448,538	7,827,066	330	126	-	126	RC

**Refer Appendix 1 for copper equivalent (CuEq) calculations.*

REFERENCES

[1] 15/11/2023. Tennant Minerals (ASX.TMS): "Strong to Intense Copper Mineralisation Bluebird and East"
[2] Portergeo.com.au/database/mineinfo. Tennant Creek - Gecko, Warrego, White Devil, Nobles Nob, Juno, Peko, Argo.
[3] 25/08/2022. Tennant Minerals (ASX. TMS): "Standout Geophysical Targets to Replicate Bluebird Cu-Au Discovery".

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 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.

**Refer Appendix 1 for copper equivalent (CuEq) calculations.*

APPENDIX 1: Equivalent Copper (CuEq) Calculation

The conversion to equivalent copper (CuEq) grade must consider the expected plant recovery/payability and sales price of each commodity in the calculation.

Approximate recoveries/payabilities are based on comparable deposits previously mined in the Tennant Creek mineral field, which are similar to the Bluebird discovery in terms of mineralogy.

The prices used in the calculation are based on spot market pricing for Cu, Au, Ag at the time of release sourced from the website kitcometals.com, whilst price estimates for Bi and Co are from other sources.

Table 3 below shows the grades, process recoveries and factors used in the conversion of the poly metallic assay information into an equivalent Copper Equivalent (CuEq) grade percent.

Table 3: Copper Equivalent Calculations and Factors

Metal	Average grade	Average grade	Metal Prices			Recovery x payability	Factor	Factored Grade
-	(g/t)	(%)	$/oz	$/lb	$/t	(%)	-	(CuEq%)
Cu	-	7.60	$0.23	$3.69	$8,155	0.8	1.00	7.6
Au	2.4	-	1,890	$30,240	$66,648,960	0.8	0.82	1.961
Ag	6.10	-	22.7	$363	$800,493	0.8	0.01	0.060
Bi	-	0.32	$0.50	$8.00	$17,632	0.8	2.16	0.692
Co	134	-	$0.94	$14.97	$33,000	0.8	0.0004	0.054
							CuEq	**10.37**

Using the factors calculated above the equation for calculating the Copper Equivalent (CuEq)% grade of the intersection of 14.1m @ 7.6% Cu, 2.4 g/t Au, 6.1 g/t Ag, 0.32% Bi, 134 g/t Co is:

CuEq% = 1 x Cu% + 0.82 x 2.4g/t Au + 0.01 x 6.1g/t Ag + 2.16 x 0.32% Bi + 0.0004 x 134g/t Co = 10.4% CuEq

**Refer Appendix 1 for copper equivalent (CuEq) calculations.*

APPENDIX 2:

Cautionary note regarding visual estimates:

In relation to the disclosure of visual mineralisation in the report and as detailed in Appendix 2, 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. All assay results for the remainder of this program are expected to be available within the next 4-8 weeks. Target mineral abundances are estimated along with general geological descriptions.

BBRC0026 Summary Log					
From	To	Drill	Lith Zone	Lithology	Mineralisation
0	1	RC		Surface alluvial gravel	
1	9	RC	Saprolite	clayey mottled upper saprolite	
9	10	RC	HW	Quartz vein	
10	46	RC		Weathered red ferruginous siltstone & sandstone, common hematite veining, strong quartz veining at 9-10m, common kaolinite clay & quartz	
46	54	RC	Strongly hematised sandstone-siltstone	Slightly weathered clayey sandstone siltstone with large veins of matrix supported hematite breccia	**Trace copper oxide mineralisation on fracture and shear surfaces increasing to 1% from 49-54m.**
54.0	55.25	DD	Hematite ironstone	Ironstone breccia, black & specular hematite	**Common manganese & copper oxides in fractures**
55.25	55.6	DD	Hematite ironstone	Sheared ironstone, specular & black hematite	**Trace copper mineralisation. (<1%).**
55.6	58.4	DD	Jasper	Silicified hematised brecciated siltstone	**Trace copper mineralisation. (<1%).**
58.4	68.5	DD	Hematite ironstone	Ironstone hematite breccia	**Trace copper mineralisation. (<1%).**
68.5	69.5	DD	FW breccia	Polymictic quartz - hematite breccia, copper mineralisation.	
69.5	87.33	DD	hem-chlorite FW siltstone-sandstone	Slightly to mod hematised &/or chloritised siltstone & lesser sandstone, patchy breccia/shear zones; some quartz veins below 76m	
87.33	125.3	DD	(Hematised) FW siltstone-sandstone	Patchy weak hematite alteration, minor quartz veins with chlorite selvedges, shear breccia at 104-105.5m	

BBDD0043 Summary Log				
From	To	Lith Zone	Lithology & alteration	Mineralisation
0	98.0		RC pre-collar.	
98.0	187.6	Hematitic HW	Ferruginous sandstone & siltstone, shearing, quartz veining.	
187.6	197.0	Chloritic HW	Sandstone & siltstone, moderately chloritised; shearing & some quartz-carb-chlorite mylonites.	
197.0	244.9	Chloritic - Hematite HW	Sandstone siltstone, some sedimentary breccia; alternating hematisation / chloritisation , more chlorite down hole; quartz veining, thin shears, thin mylonites.	**Trace copper mineralisation at 233 m (<1%).**
244.9	249.2	Shear Zone	Shear zone/breccia including hematite & very hematised siltstone	Trace sulphides on fracture surfaces
249.2	252.8	Chloritic HW	Sandstone & siltstone, common thin shears	Chloritised
252.8	253.2	Hematite Breccia	Hematite-quartz breccia with chloritised& ferruginous siltstone clasts	**Trace chalcocite (<1%)**
253.2	263.9	Chloritic zone	Chloritised sandstone & siltstone, numerous thin shears	
263.9	269.4	FG intrusive	Strongly sheared siltstone or fine grained intrusive	Very strongly chloritised; sulphide laminae on shear surfaces

**Refer Appendix 1 for copper equivalent (CuEq) calculations.*

269.4	276.9	Jasper breccia	Intensely silicified, moderately hematised jasper / polymictic breccia, some specular hematite veining in part	**269/271m trace malachite 275.6-276m: common (<1%). malachite on shear surfaces 276-276.9m: trace malachite visible in healed fractures (<1%).**
276.9	277.0	FW	Moderately hematised mudstone - siltstone with large oxide coated jasper clasts	
277.0	278.6	Sheared FW siltstone	Sheared moderately hematised siltstone; mylonites along bedding alpha=25°	
278.6	282.9	Chloritic FW	Chloritised sandstone siltstone, some shearing & thin breccia	
282.9	331.7	(Sheared) FW siltstone	Sheared to fractured purple to grey to reddish moderately hematised siltstone, minimal visible bedding but probably oblique, minor very fine sandstone	
331.7	331.85	Lower sheared ironstone	Strongly sheared / banded black hematite-quartz ironstone, some specular hematite; later spotty red hematite alteration	
331.85	343.0	FW siltstone	Purplish grey siltstone	
343.0	344.5		5-10cm weakly banded intense quartz-hem shear/breccia down core axis	
344.5	347.2 EOH	FW siltstone Red Shale	Sharp contact into bland massive reddish siltstone	

BBDD0045 Summary Log				
From	To	Lith Zone	Lithology	
0	78.2		RC pre-collar	
78.2	93.2	HW siltstone - sandstone	Grey to grey green to purple-brown massive to weakly banded siltstone & lesser sandstone, alpha 25	
93.2	94.3	Fault Zone	Fault breccia: grey siltstone fragments in brown clayey matrix	
94.3	102.9	HW siltstone - sandstone	Grey to slightly greenish grey siltstone & sandstone, fractured in part. 98.6-98.9m: fault breccia 101.3-101.4m fault breccia	
102.9	127.3	Chloritic HW siltstone	Dark grey green slightly chloritic siltstone, weak bedding alpha 30 Several 15cm quartz-chlorite-silicified siltstone shear zones alpha 30 More chloritic with depth & chlorite infilled network fractures, & irregular 1-2mm chlorite fractures s	
127.3	129.4	Fault Zone	Fine to coarse breccia, milled clayey matrix; top contact alpha 65	
129.4	131.4	Chloritic HW siltstone	Grey green slightly chloritic pervasive siltstone, patchy fracturing	
131.4	137.1	Fault Zone	Fine to coarse breccia, top contact alpha 40, some red hem stained matrix	
137.1	150	Mafic Intrusive?	Fine grained green mafic rock, no visible bedding, minor hem fractures. Minor sheared quartz zones, minor thin possible felsic extrusive; alpha ~30 where visible 144.5 to 144.7m: fault zone 149.2 to 149.65m: fault zone 153.4 to 154m: Red brown brecciated hem alt siltstone?	
150	155.6	Mixed Ironstone	Dark green/grey mafic, fractured, some large clasts of brecciated ironstone **1-5% chalcopyrite**	
155.6	156	Massive sulphide		60% chalcopyrite, weakly smeared s
156	159.6	Mafic / siltstone + sulphides	Brecciated purple siltstone & green mafic?	**2-20% chalcopyrite as matrix infill, on in veins/shears, or dissem.**
159.6	160	Massive sulphide		**60% chalcopyrite, weakly smeared**
160	161	Mafic / siltstone + sulphides	Brecciated purple siltstone & green mafic?	**1-5% chalcopyrite as matrix infill, on in veins/shears, or dissem.**
161	161.8	Massive sulphide		**80% chalcopyrite, weakly smeared**
161.8	162.1	FW_HW siltstone	Brecciated grey to brown siltstone	
162.1	172.5	FW-HW dissem sulphide zone	Dark green-grey siltstone, pervasive mod chlorite alteration, & 30% grey very fine sandstone with some 206mm slightly irregular quartz veins; scattered 10cm zones quartz-hem-siltstone breccia	**Scattered chalcocite +/- pyrite in quartz-hem-siltstone breccia, & in slightly irregular quartz-hem veinlets; minor very irregular bornite veins <5mm: estimate 0.5% sulphides overall**
172.5	174.8	FW-HW siltstone	Grey very fine sandstone, massive to weak irregular bedded alpha zero; lesser dk grey siltstone	
174.8	177.1	Chlorite Zone	Chloritised siltstone, patchy strongly broken to brecciated, with brown hem fractures, brecciated quartz veining	
177.1	182.5	Chlorite Zon	Chloritised siltstone, abundant fine network quartz veining, & planar to irregular quartz-hem veining,	**Some fine scattered sulphides/bornite blebs; (<2%). 80.95-181.05m: sheared siltstone-quartz alpha 24 with some bornite**
182.5	183.8	Mixed Ironstone	Faulted alpha 80 into massive grey to dark grey siltstone, brecciated network quartz, 2-10cm irregular black to dark brown ironstone & spec hem fracture infill zones	
183.8	184.3	Chlorite Zon	Siltstone with intense patchy chlorite alteration & disseminated spec hem, & some siltstone-chlorite-carbonate? breccia	
184.3	191.3	Chlorite Zon	Dark grey moderately chloritised siltstone, & light grey very fine sandstone, weak network quartz veining, some brown chlorite-hem slightly slicken-sided; more chloritic to base	

*Refer Appendix 1 for copper equivalent (CuEq) calculations.

191.3	195.3	Chlorite Zon	Grey very fine sandstone, patchy strong network quartz veining, & lesser dark grey chloritic siltstone	**Scattered fine chalcocite or bornite, or along sandstone-siltstone contacts, or in quartz veinlets.**
195.3	196.65	FW-HW siltstone	Fractured to brecciated green to purple-brown siltstone, disrupted brecciated quartz veining	
196.65	198.8	Ironstone	Grading into brecciated sheared hem ironstone, abundant spec hem,	**Patches of chalcocite 1%.**
198.8	199.5	Chlorite FW	Transitional into intensely chlorite altered black rock, some dissem spec hem	
199.5	200.25	Ironstone	Fracture alpha 45 into dark brown hem ironstone, fractured to brecciated, some spec hem & quartz veining	
200.25	200.65	Massive sulphide		**40% chalcopyrite, weakly smeared.**
200.65	213	Mixed Ironstone	intense dark black chlorite alteration with brown hem slickensides, scattered disseminated spec hem, & some 10cm hem/spec hem ironstone zones, sheared alpha 10	
213	214	FW siltstone-sandstone	Irregular transition over 5mm into silicified light grey-brown very fine sandstone, with abundant white & grey network vein quartz, lesser sheared dark grey siltstone	
214	231.9 EOH	FW siltstone-sandstone	Grey massive very fine sandstone (70%) with patchy strong network quartz veining; 30% dark grey siltstone, weak network quartz veining & some fracture zones	

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From	To	Lith Zone	Lithology	Mineralisation
0	78.3		Rec pre-collar	
78.3	82.31	HW siltstone – sandstone, variably hematised, some silicified or chloritised	Finely bedded chloritised sandstone & siltstone, common quartz carb veins	
82.31	85.55		Quartz matrix chloritised shear breccia	
85.55	91.46		Chloritised siltstone, sandstone, common quartz veining, some hem veining	
91.46	95.3		Shear zone weathered & clays on shear surfaces	
95.3	99.11		Silicified chloritised sandstone & siltstone, shearing mainly along the bedding plane	
99.11	102.2		Shear zone, clay-weathered shear surfaces, common quartz veining	
102.2	109.68		Medium grained sandstone, widespread shearing & weathered shear surfaces	
109.68	123.1	Chloritic HW	Shear zone in chloritised sandstone-siltstone, thin mylonites, with sericite selvages	
123.1	128.61	Mylonitised mafics	Shear zone with common mylonitised mafics, short polymictic breccia zones with hematite in the matrix, common quartz veins	
128.62	129.42	HW shear breccia	Leached shear zone	**Common native Cu & chalcopyrite laminae**
129.42	129.76		Breccia with mylonite clasts & silica plus hematite matrix	
129.76	139	Hematite – jasper ironstone	Hematite matrix with primarily quartz & jasper, heavily sheared recemented in parts with red hematite & quartz	**Clasts chalcopyrite 3%& chalcocite ~3%**
139	141.7		Hematite matrix with primarily quartz & jasper clasts sheared & recemented	**Thin native Cu veins & blebs**
141.7	144		Major Void?	
144	163.28		Quartz & jasper clasts in hematite matrix, minor shearing, 2% quartz & spec hem veining; common siderite veining & vugs	**Up to chalcocite 5% + trace chalcopyrite (several % Cu mineralisation overall).**
163.28	163.5		Hematite matrix & brown, grey & black hematite clasts, some magnetite	**Fine hematite vein with ~30% chalcocite.**
163.5	168.4		Jasper rich hematite matrix breccia, short shear zones	**Some shears healed with siderite & quartz-chalcocite 2%**
168.4	173.4		Sheared jasper & polymictic breccia of quartz & red jasper clasts with brown & black hem clasts, quartz matrix with common spec hem veining, drusy quartz shears.	**Chalcopyrite 0.5%, chalcocite 0.5%, Cu-ox on surfaces.**
173.4	177.25	Chloritic sheared FW	Chloritic shear zone with common mylonites & crush zones,	**Common fine chalcocite, native Cu veins & laminae , (<3%).**
177.25	180.6 EOH	Purple grey	Sheared purple grey (Fe) sandstone & siltstone, frequent thin mylonites, some crush zones, shears with chlorite selvage, frequent short quartz stockworks	

**Refer Appendix 1 for copper equivalent (CuEq) calculations.*

APPENDIX 3

JORC 2012 Edition - Section 1 Sampling Techniques and Data

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

Criteria	*JORC Code explanation*	*Commentary*
Sampling techniques	• *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.* • *Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.* • *Aspects of the determination of mineralisation that are Material to the Public Report.* • *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.*	• Exploration results are based on industry best practices, including sampling, assay methods, and appropriate quality assurance quality control (QAQC) measures. • In this report – visual mineralisation estimates have been updated from previous announcement for one drill-hole (BBRC0026). • Core samples are taken as half HQ3 core and sampled on nominal 1m intervals, with sampling breaks adjusted to geological boundaries where appropriate. • Reverse Circulation (RC): 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. • 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 as per the core samples methods outlined here. • 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.
Drilling techniques	• *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).*	• 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. • RC drilling was conducted using a $5^1/_4$" face sampling hammer, with holes drilled from -45 to -60 degrees. • Rotary mud (RM) drilling was completed with 126mm PCD hammer with holes drilled from -45 to -60 degrees.
Drill sample recovery	• *Method of recording and assessing core and chip sample recoveries and results assessed.* • *Measures taken to maximise sample recovery and ensure representative nature of the samples.* • *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.*	• 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. • 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. • The quality of diamond core samples is monitored by the logging of various geotechnical parameters, and logging of core recovery and competency.
Logging	• *Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource*	• All logging is completed according to industry best practice. • RC chips are logged at 1m intervals using a representative sample of the drill chips. Logging

**Refer Appendix 1 for copper equivalent (CuEq) calculations.*

Criteria	JORC Code explanation	Commentary
	estimation, mining studies and metallurgical studies. • *Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.* • *The total length and percentage of the relevant intersections logged.*	records include lithology, alteration, mineralisation, colour and structure. • RM chips are logged at 2m intervals using a representative sample of the drill chips. Logging records include lithology, alteration, mineralisation and colour. • 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.
Sub-sampling techniques and sample preparation	• *If core, whether cut or sawn and whether quarter, half or all core taken.* • *If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.* • *For all sample types, the nature, quality and appropriateness of the sample preparation technique.* • *Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.* • *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.* • *Whether sample sizes are appropriate to the grain size of the material being sampled.*	• For all sample types, the nature, quality and appropriateness of the sample preparation technique is considered adequate as per industry best practice. • 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. • RC samples are dried at the laboratory and then pulverised to at least 85% passing 75 microns. • RM samples were not analysed. A sample was retained for future interpretation. • Core is cut using an Almonte automated core cutting saw. Half core is taken for sampling.
Quality of assay data and laboratory tests	• *The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.* • *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.* • *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.*	• 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. • Pulp sample(s) were digested with a mixture of four Acids including Hydrofluoric, Nitric, Hydrochloric and Perchloric Acids for a total digest. • Analysis of all drilling samples have been determined by Inductively Coupled Plasma (ICP) Mass 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. • Gold was analysed by Fire Assay with a 25g charge and an ICP-MS finish with a 5ppb Au detection limit. • 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.
Verification of sampling and assaying	• *The verification of significant intersections by either independent or alternative company personnel.* • *The use of twinned holes.* • *Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.* • *Discuss any adjustment to assay*	• All significant intercepts are reviewed and confirmed by at least two senior personnel before release to the market. • No adjustments are made to the raw assay data. Data is imported directly to DataShed in raw original format. • All data are validated using the QAQCR validation tool with DataShed. Visual validations are then carried out by senior staff members.

**Refer Appendix 1 for copper equivalent (CuEq) calculations.*

Criteria	JORC Code explanation	Commentary
	data.	
Location of data points	• *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.* • *Specification of the grid system used.* • *Quality and adequacy of topographic control.*	• 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. • Downhole surveys (2023 RC) were taken at 30m intervals using a Reflex single shot camera. The camera records azimuth and dip of hole. • Downhole surveys for the 2023 diamond drilling were taken at 6-12m intervals by solid state gyro to maintain strong control of drill direction. • Survey co-ordinates: GDA94 MGA Zone 53.
Data spacing and distribution	• *Data spacing for reporting of Exploration Results.* • *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.* • *Whether sample compositing has been applied.*	• 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. • 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.
Orientation of data in relation to geological structure	• *Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.* • *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.*	• Orientation of sampling is as unbiased as possible based on the dominating mineralised structures and interpretation of the deposit geometry. • If structure and geometry is not well understood, sampling is orientated to be perpendicular to the general strike of stratigraphy and/or regional structure.
Sample security	• *The measures taken to ensure sample security.*	• All samples remain in the custody of company geologists and are fully supervised from point of field collection to laboratory drop-off.
Audits or reviews	• *The results of any audits or reviews of sampling techniques and data.*	• None yet undertaken for this dataset

**Refer Appendix 1 for copper equivalent (CuEq) calculations.*

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
Mineral tenement and land tenure status	• *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.* • *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.*	• 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.
Exploration done by other parties	• *Acknowledgment and appraisal of exploration by other parties.*	• Several other parties have undertaken exploration in the area between the 1930s through to the present day including Posgold, Meteoric Resources and Blaze Resources.
Geology	• *Deposit type, geological setting and style of mineralisation.*	• 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.

Drill hole Information	• *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:*
	  o *easting and northing of the drill hole collar*
	  o *elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar*
	  o *dip and azimuth of the hole*
	  o *down hole length and interception depth*
	  o *hole length.*
	• *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.*
		• 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”.
		• 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”.

Data aggregation methods	• *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.* • *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.* • *The assumptions used for any*	• 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. • No high-grade cut-offs are applied. • A high gold ‘nugget effect’ may exist in some samples at the Bluebird deposit.

**Refer Appendix 1 for copper equivalent (CuEq) calculations.*

Criteria	*JORC Code explanation*	*Commentary*
	reporting of metal equivalent values should be clearly stated.	
Relationship between mineralisation widths and intercept lengths	• *These relationships are particularly important in the reporting of Exploration Results.* • *If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.* • *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').*	• Mineralisation at Bluebird is interpreted to be striking east-west with a dip of 70-80 degrees towards 180 degrees true azimuth. • 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.
Diagrams	• *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.*	• Refer to Figures 2-3-4-5 for appropriate diagrams of the Bluebird project and mineralisation including pierce point locations.
Balanced reporting	• *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.*	• All relevant background information is discussed in the announcement. • 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".
Other substantive exploration data	• *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.*	• No other data is material to this report.
Further work	• *The nature and scale of planned further work (e.g., tests for lateral extensions or depth extensions or large-scale step-out drilling).* • *Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.*	• Additional drilling is planned to define and extend the mineralisation locally and at targets near to Bluebird. Resource definition drilling will then be planned. • 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 shoot within the 5km Bluebird Corridor.

**Refer Appendix 1 for copper equivalent (CuEq) calculations.*