

24<sup>th</sup> October 2022

## MAGMATIC SULPHIDE ZONE INTERSECTED AT WEST TANAMI

(100% owned, Western Australia)

- **Stratigraphic diamond hole intersects 10m zone of significant sulphides, with visible pyrrhotite, chalcopyrite (copper mineralisation) and pyrite within mafic rocks.**
- **This intersection opens the West Tanami Project to orthomagmatic base metal potential, where it has not previously been considered.**
- **Gold mineralisation potential is being evaluated, to be confirmed by laboratory assays**
- **Drill hole was part funded by the WA Government EIS program**

Killi Resources Limited ('Killi' or the 'Company') (ASX: KLI) is pleased to provide an update on its drill programs at the West Tanami Project in the Kimberley region of Western Australia.

As part of this program the Company completed a shallow-angled 890.4m stratigraphic diamond hole at the Fox prospect, (previously Raven prospect) at the northern end of the project, to delineate the stratigraphic sequence within the Tanami Orogen.

The hole was drilled in partnership with the Department of Mining Industry Regulation and Safety, in which the WA government contributed \$150,000 towards completion of the hole, as part of the Exploration Incentive Scheme.

The geology intersected in the core showed an increased presence of intrusive mafic units, in particular a gabbro which exhibited significant localised copper sulphide mineralisation. The sulphide zone spans 10 metres, with increasing amounts of pyrrhotite and chalcopyrite, ranging from disseminated to massive, refer Figure 1. All reported sulphide intersections are based on visual observations.

**Killi CEO, Kathryn Cutler commented,** *'We are extremely excited to have intersected this significant sulphide zone at West Tanami.'*

*'The purpose of the targeted hole was to determine where the prospective stratigraphy extended in the northern end of the Project, and whether we were in the right rocks for gold mineralisation like that seen at the 13Moz Callie gold mine down the road. The good news is the hole did pass through a large sequence of prospective looking folded sediments with zones of quartz veining, however of serious interest is the visual copper mineralisation seen within a mafic unit.'*

*'The Tanami province has been explored for gold, uranium and rare earth elements previously, however the prospectivity for base metals, in particular orthomagmatic systems has not been documented. This is the first occurrence of this style of mineralisation on the project, and possibly the region, and provides a unique opportunity for the Company.'*



**Figure 1.** Massive sulphides in TMDD0001, chalcopyrite, pyrrhotite and pyrite observed, 841m depth.

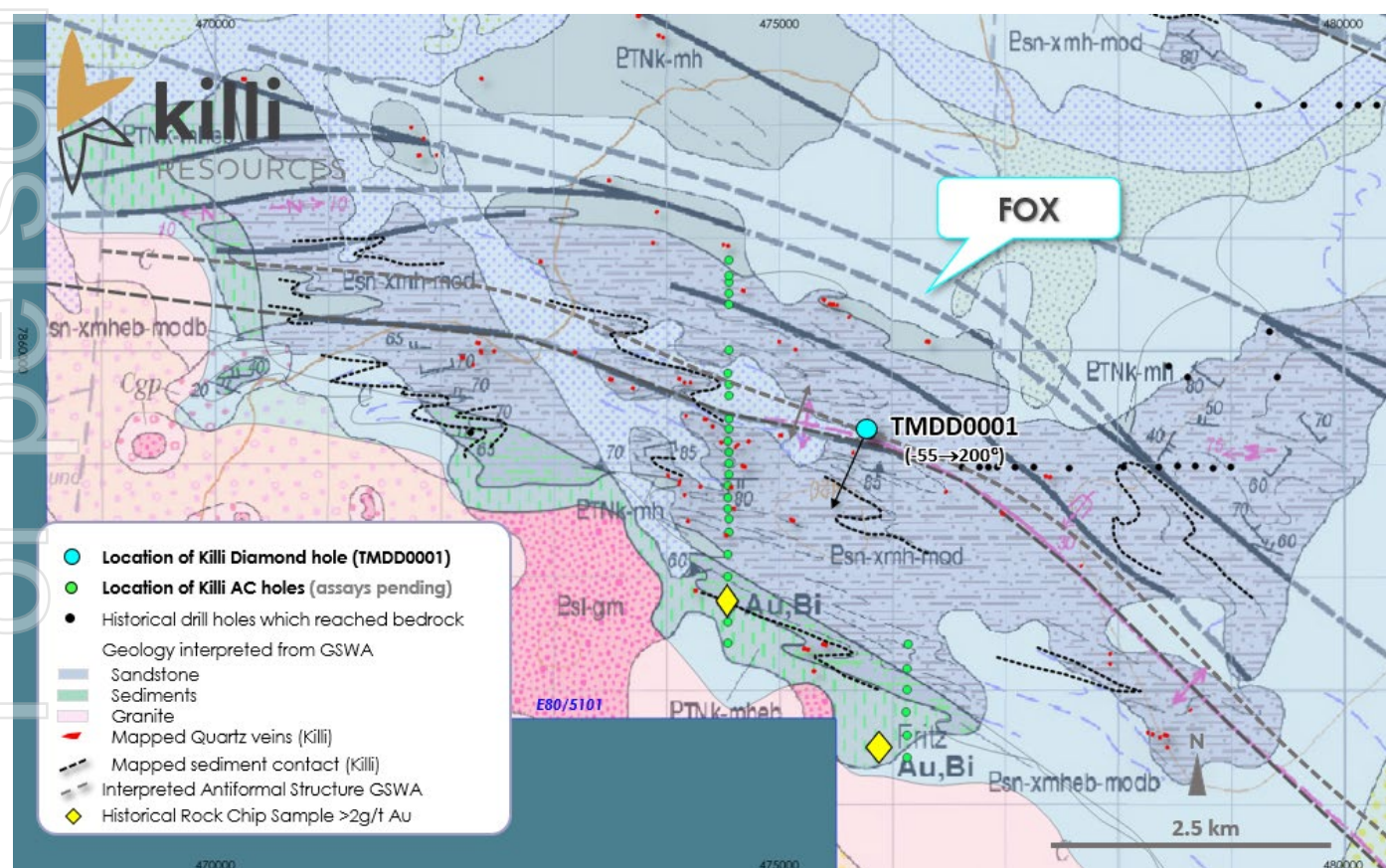
TMDD0001 was drilled to a total depth of 890m, at a shallow angle (-55°) to cover as much of the stratigraphy as possible with the sediments interpreted as sub-vertical isoclinal folds at the Fox prospect, Figure 2.

Of significance at ~840m depth (560m vertical depth), a gabbro (mafic) unit with distinctly high sulphide content was intersected. Sulphides were observed from ~834m – 840.8m ranging from trace to approximately 30% of the rock mass increasing with depth. From 840.8m – 841.5m semi-massive and massive sulphides were intersected, where classification of massive sulphides is based on sulphide content >80% of the rock mass, Figure 3 & Table 1. The dominant sulphides observed were pyrrhotite, chalcopyrite and pyrite, potentially representative of a magmatic base metal system. The pyrrhotite and chalcopyrite appear to be associated with the gabbro unit, with pyrite present in the sediments as well as the gabbro. At this point the pyrite is believed to be part of a hydrothermal overprint as it is seen throughout the hole and associated with varying degrees of quartz veining.

Previous work and mapping completed by the Geological Survey of Western Australia has only identified sediments with no interpretation of mafic units at the prospect, Figure 4. Dolerites have been loosely documented in the region to intrude the sedimentary sequence, however there is very limited drilling in which they have been intersected and limited analysis performed.

Further review of historical reports indicates there has been no prior exploration for magmatic sulphide mineralisation in the Tanami Province, which presents a unique opportunity for Killi to explore.

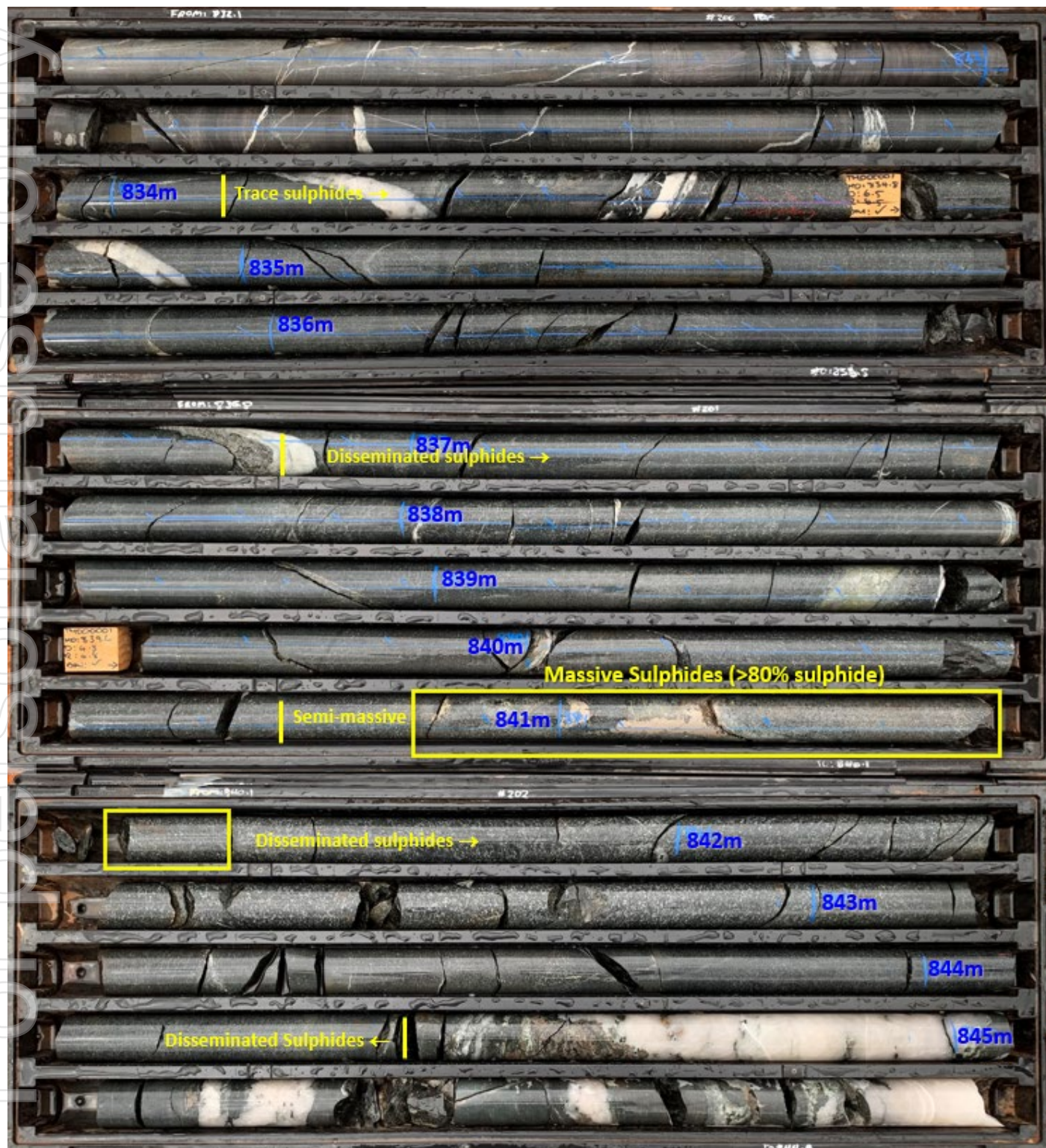
The Company plans to further evaluate the drill core with the assistance of experienced geologists of the Tanami region, and those with base metal experience. Geological work will continue with further analysis to establish timing relationships, alteration assemblages and metamorphic facies of the gabbro and surrounding sediments.



**Figure 2.** Location of drilling at Fox prospect, diamond and air core, with historical holes that have reached fresh rock. Mafic units (green) and have been interpreted from airborne magnetic data. 1:100k map sheet 'Slatey Creek' GSWA is in the background.

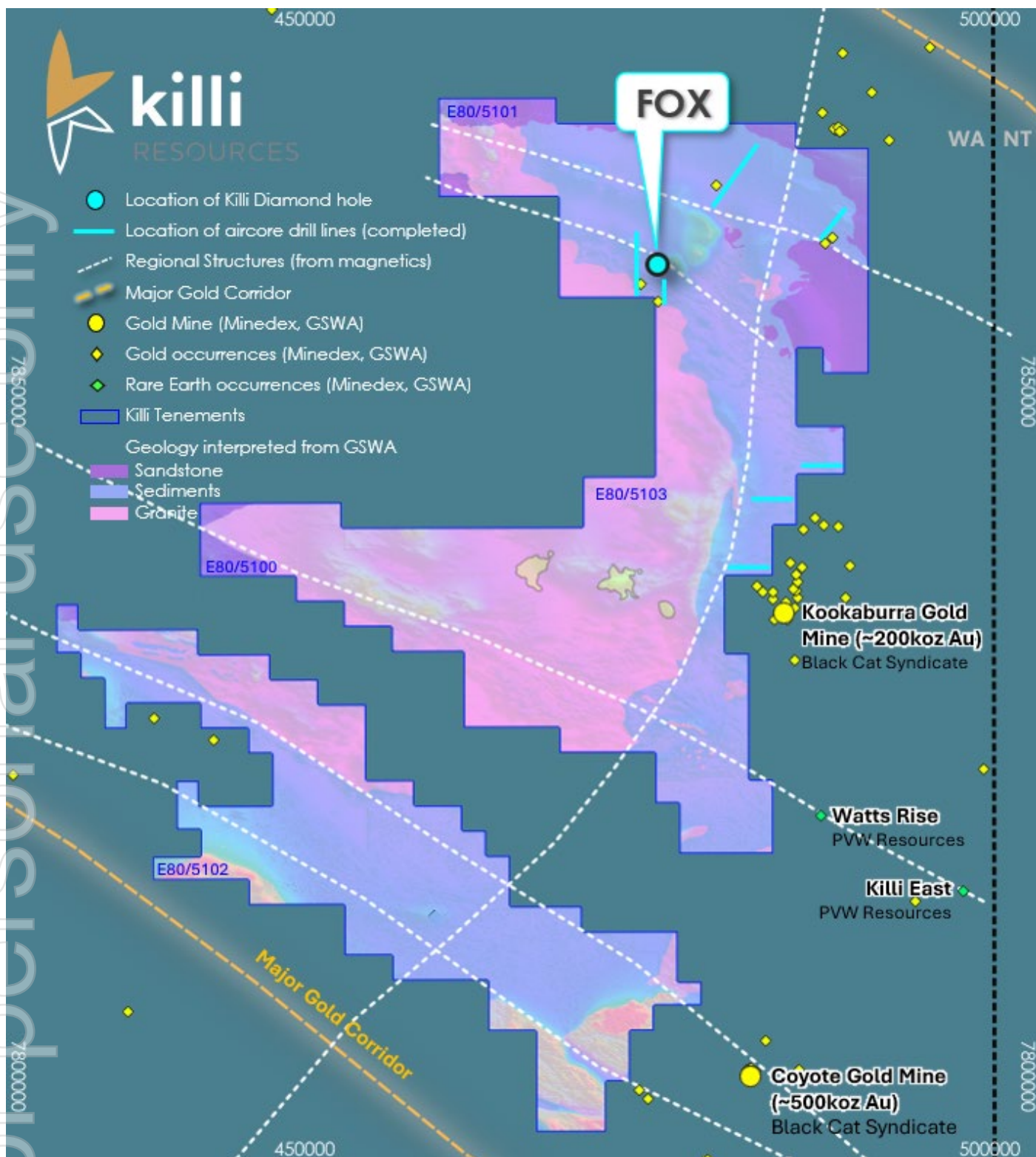


Aircore drilling at Fox, saw the completion of 30 holes on two wide-spaced drill lines, 1.4km apart. Samples were taken as 4m composites downhole and have been sent for analysis via fire assay for gold. Given the development with the results of the diamond hole, the Company plans to complete multi-element analysis on the downhole samples as well. Logging from the aircore program has also recorded and confirmed mafic units along the lines completed.



**Figure 3.** Core tray photographs of the gabbro intersected in TMDD0001, 833.1 – 845.8m.





**Figure 4.** Location diagram diamond drill hole and completed aircore drill lines at West Tanami, over regional magnetics (VRMI\_SUN45\_LIN), Geological Survey of Western Australia 250k map sheet geology, with nearby gold mines and rare earth element prospects.

## Gold Potential

Diamond hole TMDD0001 was designed to cross the stratigraphy responsible for the gold mineralisation seen 120kms along strike at the Callie Gold Mine. The drill hole covered an extensive sedimentary sequence at the top of the hole, which was intruded by thin (3 – 5m) intervals of mafics, and cross-cutting quartz veins.

In the upper part of the hole there were multiple zones of interest displaying cross-cutting quartz veins within a sandstone, adjacent to a sedimentary-mafic contact. A particularly interesting quartz-pyrite vein was intersected at ~218m with a strong silica and hematite alteration halo, and at 173m there was a folded and sheared shale unit with quartz veining and silica/feldspar alteration, Figure 5, which is characteristic of gold mineralisation styles in the region.

The stratigraphy of the Tanami region has been difficult to delineate historically, due to the poor exposure at surface, and lack of available data, such as diamond core. Exploration has been intermittent from the early 1900's until the mid-1980's owing to the remoteness and cover and has focused on sediment hosted mineralisation, specifically for uranium, rare earth elements and gold.



**Figure 5. A,** Core tray photograph of quartz-pyrite vein intercepted within sandstone at ~218m, TMDD0001. **B,** folded and sheared sediments (shale), with k-feldspar, silica and pyrite alteration, indicative of hydrothermal alteration at ~173m.

## Further Exploration

The Company plans to actively continue exploring the base metal potential of the project, from multiple fronts.

A downhole geophysical survey is planned to ascertain if there are any adjacent sulphide bodies in proximity to the diamond drill hole.

Review of historical work will continue with a wider view to include exploration for a potential of an orthomagmatic sulphide system.

Processing of the airborne magnetic and radiometric data from the survey is underway, with results to feed into the geological understanding of the project and to assist with target generation.

Results remain pending for air core and reverse circulation drilling, where the pulps will be further analysed for base metals and path finder elements to further geological understanding.

The Company will continue to keep the market updated as results flow in and understanding develops on the project geology.

**Table 1. Diamond drill hole location details and geological logging.**

Hole ID	Easting	Northing	RL	Dip	Azi	Depth (m)	Interval (m)	Observation
TMDD0001	475803.2	7859279.5	421	-55	200	890.4	0-1.5	Alluvial cover.
							1.5 – 37.4	Regolith.
							37.4 – 74.7	Partially weathered dolerite.
							74.7 - 120	Sediments (sandstones)
							120 – 127.5	Dolerite, with stringer quartz veins.
							<b>*127.5 – 195.7</b>	<b>Interbedded sediments (sandstone, siltstone, shale), with localised folding in shale units with additional feldspar and quartz veining.</b>
							195.7 – 217.1	Sandstone with moderate silica alteration, and stringer quartz veins
							<b>*217.1 – 218.1</b>	<b>Quartz vein with pyrite.</b>
							218.1 – 353.8	Interbedded dolerites and siltstones.
							353.8 - 510	Zone of interbedded sediments with dolerite, where units were 20-30m in width and repeated. Quartz veining present at contacts between lithologies.
							510 – 746.4	Sequence of sediments, dominantly sandstone
							746.4 – 759.8	Gabbro unit. Coarse grained mafic, moderate leucoxene alteration, and quartz veinlets. Sulphide veins (pyrrhotite), 10% of unit.
							759.8 – 767.7	Bedded siltstone with weak pervasive silica alteration.
							767.7 – 818.7	Interbedded sandstone and siltstones.
							818.7 – 829.7	Gabbro, strong carbonate veining
							829.7 – 833.3	Sandstone
							833.3 – 834.1	Gabbro,
							<b>*834.1 – 836.8</b>	<b>Gabbro with trace disseminated pyrite.</b>
							<b>*836.8 – 840.7</b>	<b>Gabbro with disseminated pyrrhotite up to 30%, 2% pyrite.</b>
							<b>*840.7 – 840.8</b>	<b>Gabbro with semi-massive sulphides. 40% pyrrhotite up to 15% chalcopyrite, 5% pyrite.</b>
							<b>*840.8 – 841.6</b>	<b>Gabbro with massive sulphides. 70% pyrrhotite and 10-20% chalcopyrite.</b>
							<b>*841.6 – 844.6</b>	<b>Gabbro with disseminated sulphides, 15% pyrrhotite and 5% pyrite.</b>
							844.6 – 847.2	Quartz vein
							847.2 – 871.9	Dolerite
							871.9 – 881.1	Sandstone
							881.1 – 888.1	Gabbro
							888.1 – 890.4	Sandstone

\* Units photographed and in Figures within the announcement.

The information in Table 1 is based solely on visual inspection of the core which is yet to be assayed. The presence of copper is supported by in-field portable XRF but is considered indicative only and subordinate to laboratory assays.



Authorised for release by the Board of Killi Resources Limited.

### Media Enquires

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### Competent Person's Statement

The information in this report that relates to Exploration Results is based on information compiled by Ms Kathryn Cutler. Ms Cutler is a Member of The Australasian Institute of Mining and Metallurgy. Ms Cutler has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the activity which they are 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. Ms Cutler consents to the inclusion in this report of the matters based on this information in the form and context in which it appears.

### Killi Resources Limited

Killi Resources (ASX: KLI) is a gold, copper and rare earth explorer with four wholly owned assets in Australia, with a focus on the Tanami region of Western Australia, Figure 6. The Company is focussed on underexplored provinces with the potential for a large-scale new discovery. Exploration has focussed on the West Tanami and Ravenswood North Projects since the Company listed in February 2022.

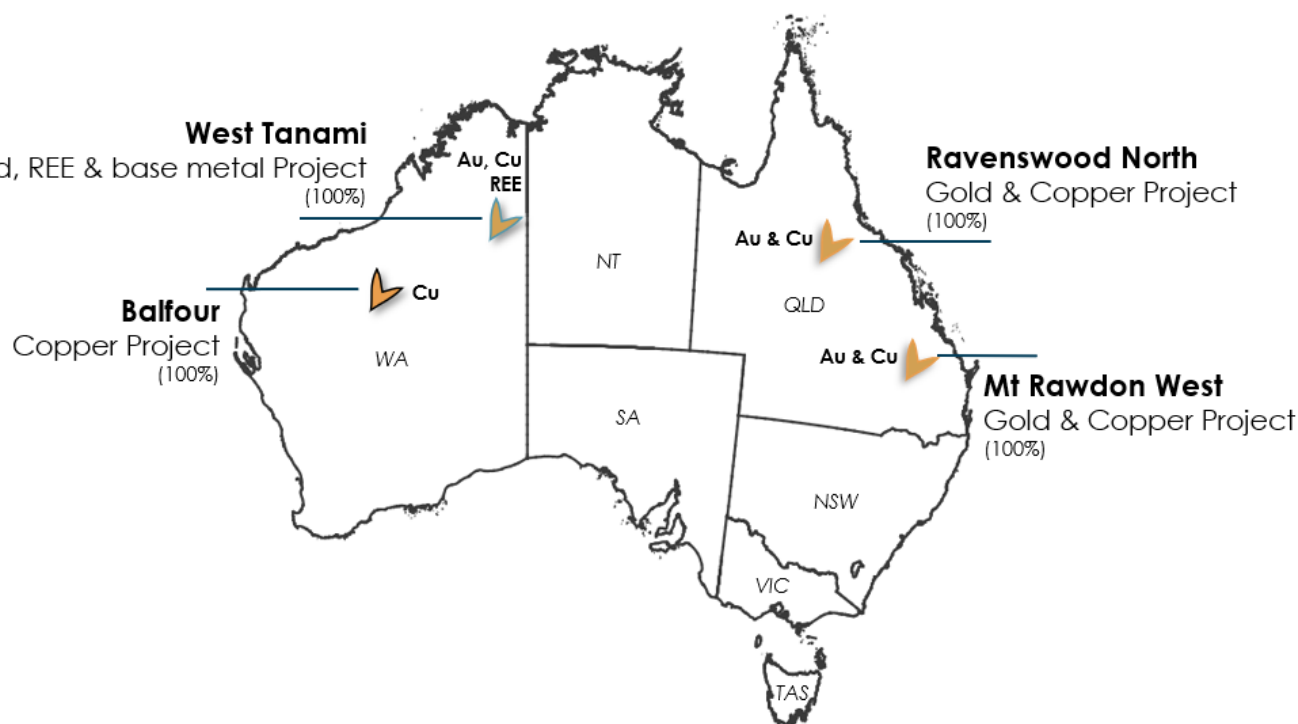


Figure 6. Location of Killi Resources Limited gold, copper and rare earth projects in Australia.

## West Tanami

The Company owns 100% of the West Tanami Gold Project in the north-east of Western Australian. The land holding totals 1,634km<sup>2</sup> of granted tenure over 100km strike of the major gold corridor, Tanami Fault System, with existing gold endowment of the Tanami Gold Province greater than 19M oz Au. Within the district there are multiple gold deposits which include Callie Gold Mine (Newmont, ~13Moz Au), the Tanami Goldfields (3M oz Au), Buccaneer (0.5M oz Au) and the Coyote and Kookaburra mines (Black Cat Syndicate, ~1M oz Au), Figure 7.

Aside from gold, recent work completed by explorers in the area have highlighted the potential for hydrothermal Rare Earth systems, within the district.

85% of the tenement package is covered by shallow transported cover (12-15m depth) which provides an opportunity for the discovery of new mineral systems.

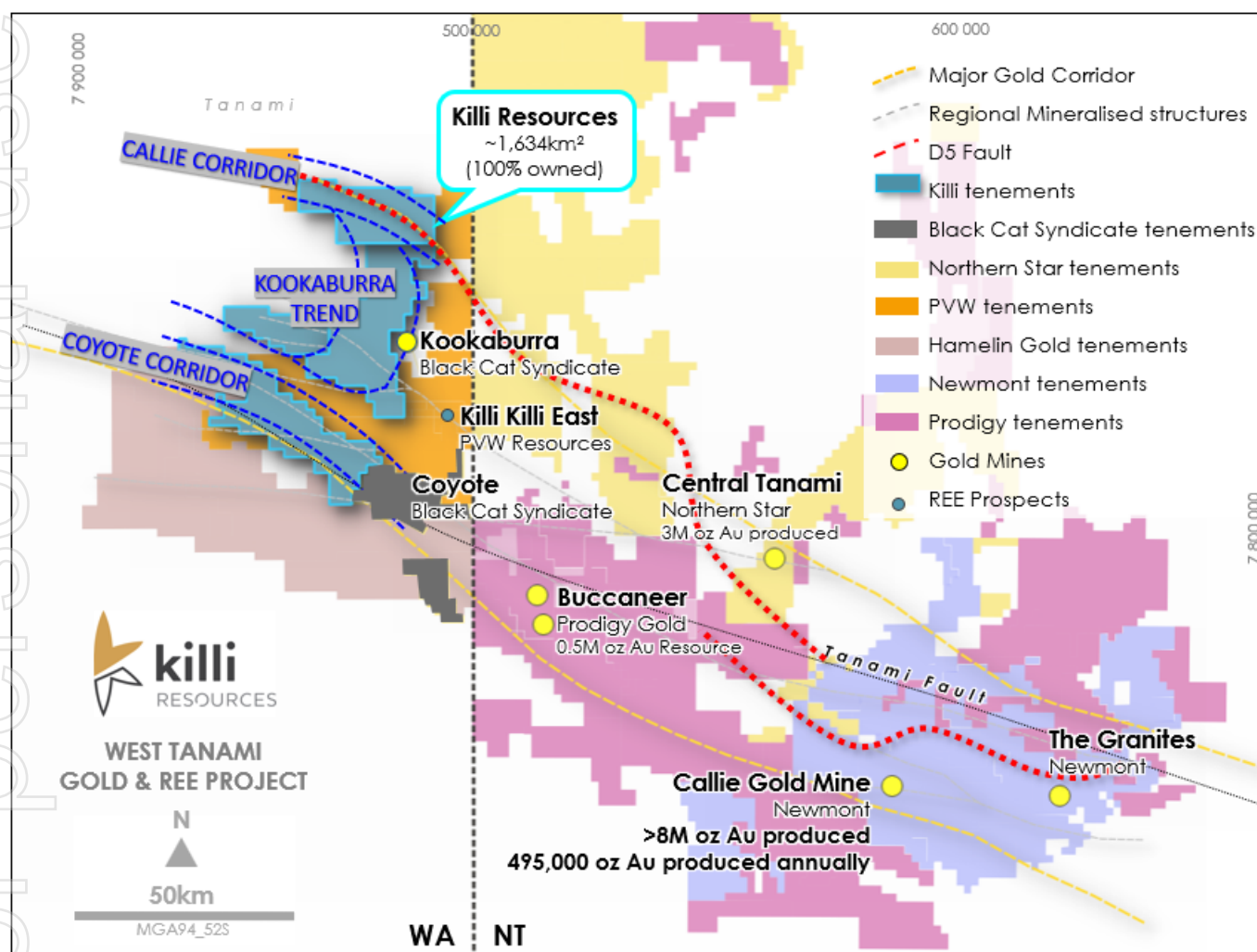


Figure 7. Location of West Tanami Project in relation to existing gold mines of the Tanami district.