ASX RELEASE

HILLGROVE RESOURCES

Wednesday, 11 October 2023

KANMANTOO DEEPS EXPLORATION UPDATE

HIGHLIGHTS

- Hillgrove has completed a 3D AMT/MT resistivity survey at the northern extension of their Kanmantoo copper-gold mine which has estimated resistivity to a depth of 1700 metres below surface.
- Multiple 3D Inversion models of the resistivity data have identified a strong low resistivity (high conductivity) zone that is to the north of the existing UG mine development
- The conductivity zone is along strike of the existing Kavanagh Cu-Au mineralised zone and is interpreted to be the faulted extension of the main Kavanagh Cu-Au system.
- The conductivity zone is coincident with strong gravity and magnetic anomalies, both are geophysical attributes of the Kavanagh Cu-Au mineralisation.
- The centre of the conductivity zone at 610mRL (590 metres below surface), is located approximately 400 metres to the north of the planned end of the Kavanagh decline.
- The volume of the conductivity zone has been reduced by 50% to suggest that there is a target of between 60 and 100 million tonnes with grades similar to those at Kavanagh mineral zone 400 metres to the south that warrants drill testing.

The Board of Hillgrove Resources Ltd (the "Company" or "Hillgrove") is pleased to announce that the Company has identified a significant opportunity for near-mine growth in the down dip and along strike continuation of the Kanmantoo copper systems with the discovery of a coincident conductivity, gravity, magnetic target that is 400 metres along strike of the known Kanmantoo Cu-Au mineralisation and may represent a repeat of the entire Kanmantoo Cu-Au deposit.

Hillgrove's recent drilling at Emily Star of 35.1m @ 1.29% Cu (30/06/2023) and at Spitfire of 45.4m @ 1.19% Cu (28/08/2023) has confirmed the location of Cu-Au mineralisation proximal to the existing UG mine plan as anticipated in previous Exploration Target compilations (23/03/2023). The successful drill confirmation of the previous Exploration Targets to identify Cu-Au mineralisation has given Hillgrove the confidence to continue with exploration to expand the Company's copper production profile and mine life within the Mine Lease area.

As a result of the success of the geophysical processes identifying the Kanmantoo Deeps zone as a possible repeat of the Kavanagh Cu-Au mineral system. The next stage is to drill test the coincident conductivity, gravity, magnetic, Cu-Au mineralised zone at Kanmantoo Deeps.

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The Exploration Target herein replaces the Company's previous Exploration Target releases and does not include the 2022 Mineral Resource Estimates (MRE's) at Nugent and Kavanagh.

A grade range has not been provided for the Kanmantoo Deeps zone until confirmation drilling is undertaken.

Table 1 Summary of the Exploration Target by zone

Exploration Target				
Deposit	**Max RL Depth**	**Tonnage Range (Mt)**	**Grade Range (Cu %)**	**Grade Range (Au g/t)**
Kavanagh	400	4 - 6	1.0 - 1.4	0.1 - 0.3
Nugent	600	2 - 4	0.8 - 1.3	0.3 - 0.5
Emily Star	600	1 - 4	0.8 - 1.2	0.1 - 0.2
Paringa	600	1 - 2	0.8 - 1.2	0.2 - 0.3
North Kavanagh	600	1 - 2	0.8 - 1.2	0.1 - 0.2
Coopers	600	1 - 2	0.8 - 1.2	0.1 - 0.2
TOTAL MINE LEASE		**10 - 20**	**0.9 - 1.3**	**0.1 - 0.3**
South Kanmantoo (EL6526)	600	2 - 4	0.8 - 1.2	0.1 - 0.3
Stella (EL 6526)	600	2 - 4	0.8 - 1.2	0.1 - 0.3
Kanmantoo Deeps	600 - 000	50 - 80	Grade range is not known for these tonnage ranges	

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Figure 1 Plan view of the Exploration Targets by zone

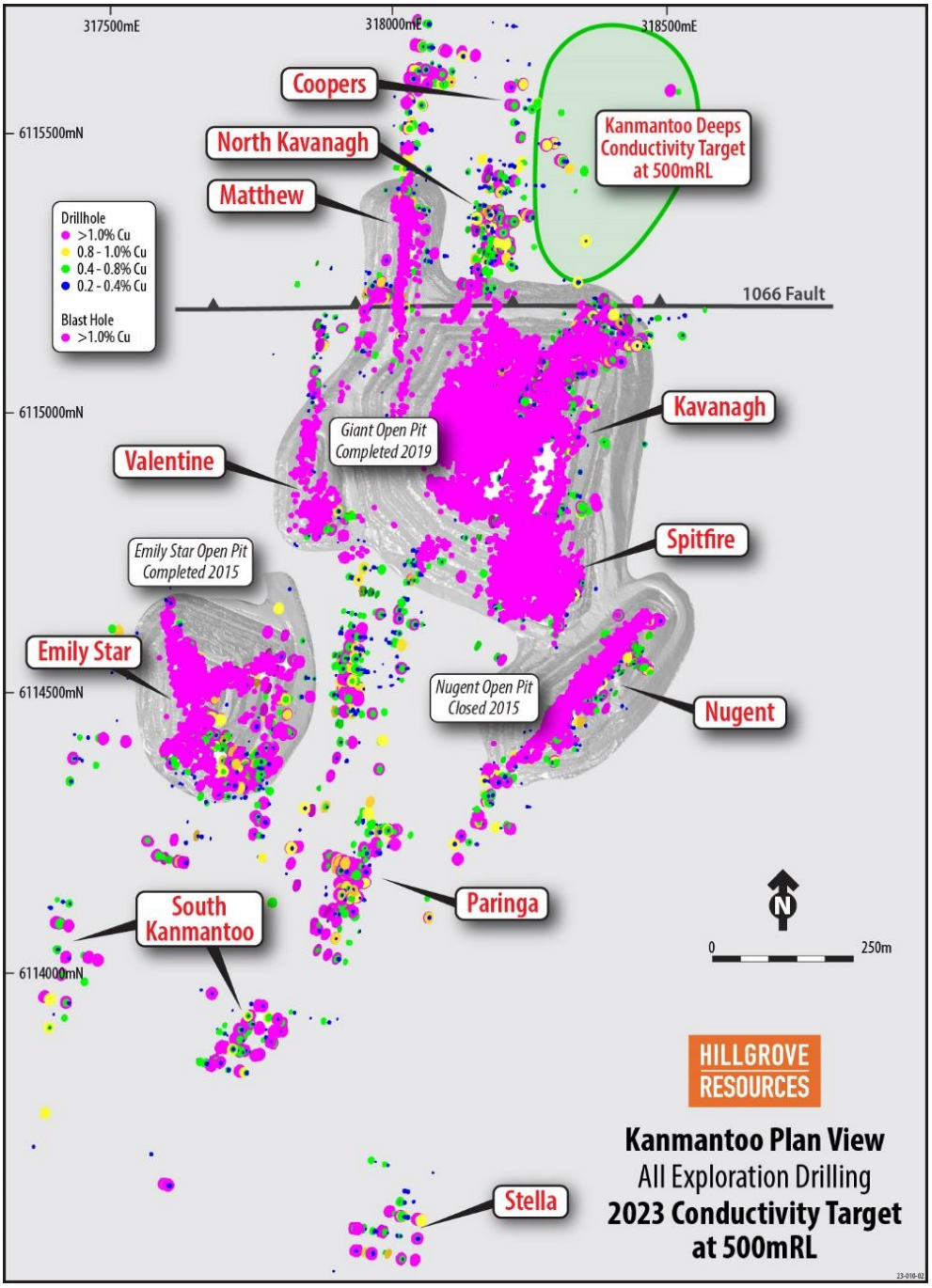

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Figure 2 **Longitudinal section of the location of all target zones**

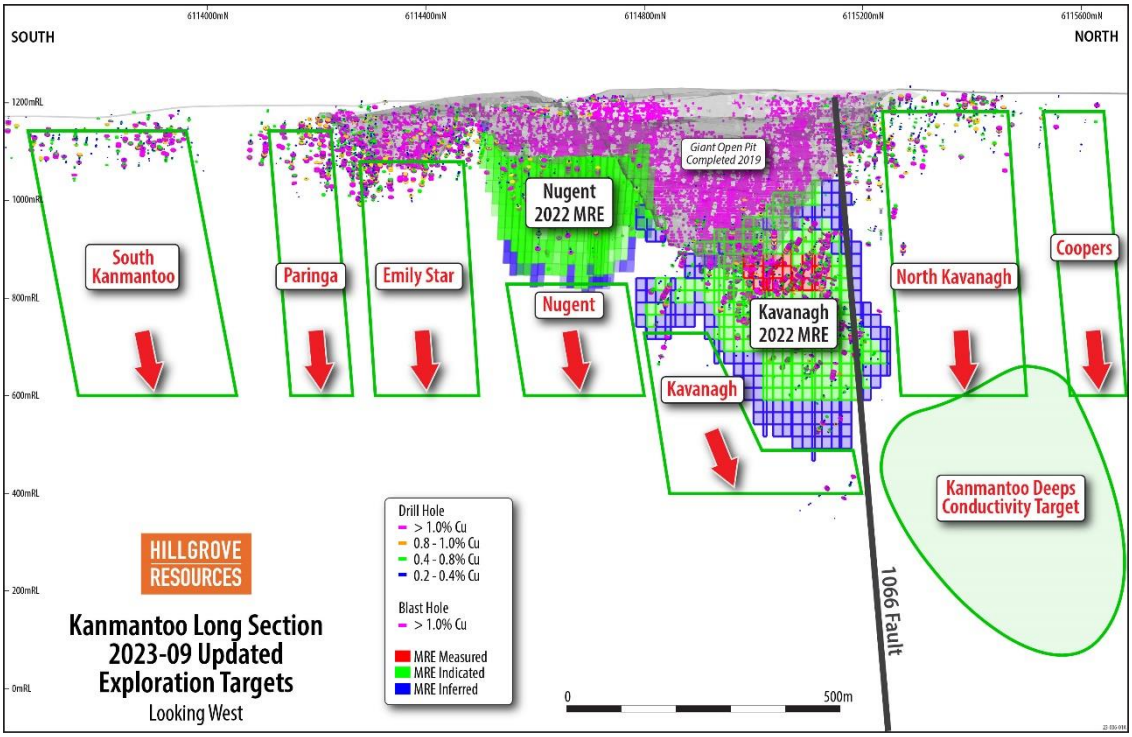
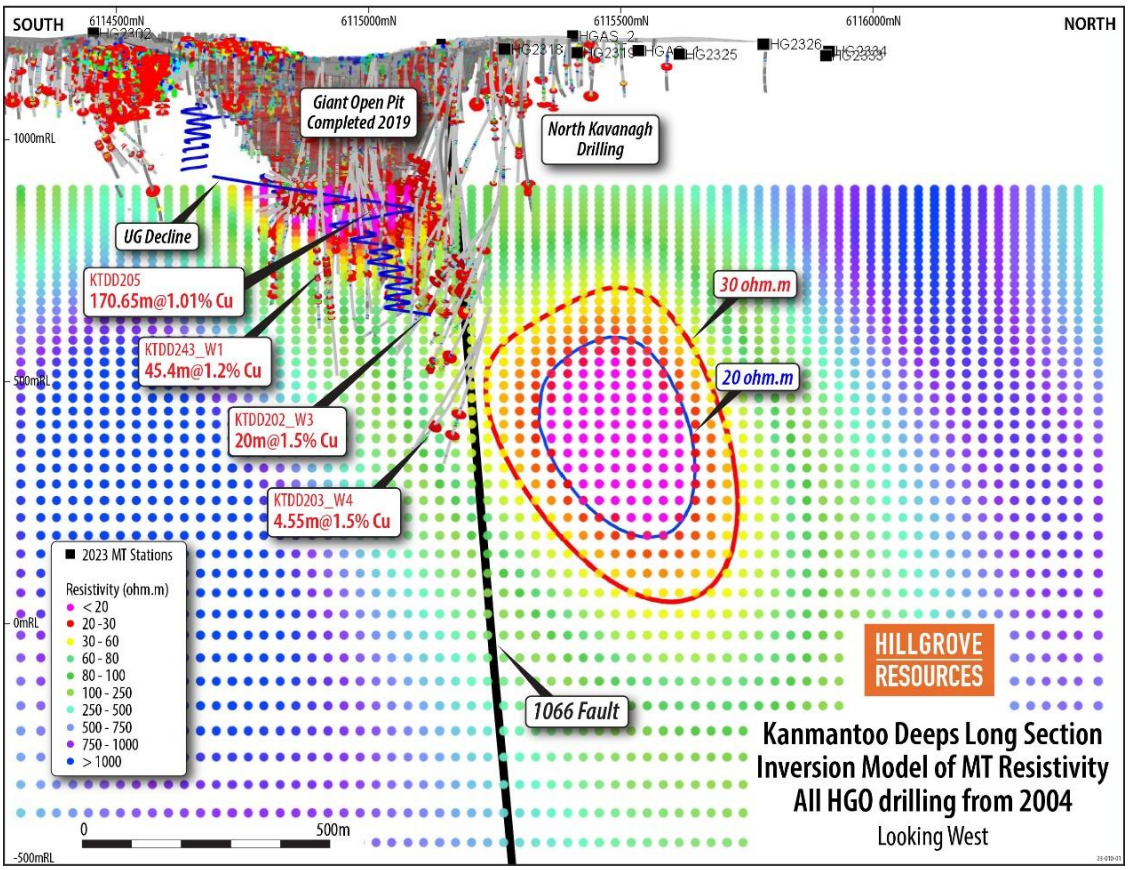


Figure 3 **Long section of the location of the Kanmantoo Deeps target**



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Method of Assessment

The Exploration Targets fall into three regions (see Table 1).

Region A comprises six zones that are all located on the Mine Lease and are outside of the current Mineral Resource Estimates or outside of the past open pit mining operations. The identification and location of these six target zones is predominantly based upon depth and strike extensions of copper-gold zones that have been mined within the open pit or intersected by diamond drilling undertaken by Hillgrove. These zones include Kavanagh, Nugent, Emily Star, Paringa, North Kavanagh and Coopers. The Exploration Target for these zones has been previously described and reported and is unchanged (23/03/2023).

Region B are two zones that are located on the adjacent Exploration Licence at Kanmantoo that surrounds the Mine Lease. These zones are within 500m of the Mine Lease boundary and comprise South Kanmantoo and Stella. The identification of these two target zones is based upon depth and strike extensions of copper-gold zones that have been intersected by percussion and/or diamond drilling undertaken by Hillgrove. The Exploration Target for these two zones has been previously described and reported and is unchanged (23/03/2023).

Region C is the new Kanmantoo Deeps zone that has been identified by the recent 3D AMT/MT[1] geophysical survey at Kanmantoo. The resistivity survey was undertaken in 2023 by respected and experienced MT contractor/consultant Moombarriga Geoscience P/L. Details of the survey are provided in Appendix A.

Inversions of the MT resistivity data all identified a zone of high conductivity (<30 ohm.m) located around 400 metres north of the planned underground operation and along strike of the known Kavanagh Cu-Au mineral system. The recent drilling of the North Kavanagh Cu-Au zone (reported 27/02/2023) and the RC drilling undertaken in 2015 (KTRC995 and reported 13/05/2015) are now interpreted as the stringer mineralisation up-dip of the Kanmantoo Deeps conductivity zone and confirm that the Kanmantoo Deeps conductivity is within the Kavanagh mineral system with the same geophysical characteristics.

Geophysically, the MT conductivity zone is coincident with the high gravity anomaly reported by HGO on 13/05/2015, and with a high magnetic zone as shown in the ASX release of 08/05/2018. These geophysical responses are all consistent with geology of the mineralisation where the Cu-Au is associated with pyrrhotite /chalcopyrite, magnetite and garnet alteration.

As shown in the long section in Figure 3 the zone of high conductivity is interpreted to be the faulted offset of the main Kavanagh Cu-Au mineralisation. Consequently, the volume of the Kanmantoo Deeps target takes into consideration the volumes of the 20 ohm.m and the 30 ohm.m shells and modified to the total Cu endowment of the historical and current Kavanagh open pits and current mineral resources. As a result, the volume of the Kanmantoo Deeps 30 ohm.m and 20 ohm.m shells have been discounted by over 80% and 20% respectively, for a net reduction of the conductivity zone in this report of 50%.

There is no guidance as to the copper grade of the Kanmantoo Deeps conductivity zone until drilling can verify the tenor of the sulphide zone. However, the Kanmantoo Deeps conductivity zone is located within the same Kavanagh mineralised system with similar coincident conductivity, gravity, magnetic, zones and within 400m of the Kavanagh Cu-Au mineralised drilling and 300 metres down-dip of North Kavanagh drilling.

The Kanmantoo Deeps conductivity zone is considered to be a high priority valid target for drill testing.

Invested Infrastructure

The importance of the existing infrastructure at the Kanmantoo Copper Mine cannot be over-emphasised in assessing the economic materiality of this Exploration Target. In particular:

- The existing copper-gold processing plant at Kanmantoo that operates at a very efficient incremental rate

[1] Magnetotellurics (MT) and Audio-frequency MT (AMT) are electro-magnetic survey and imaging techniques that use naturally-occurring ionospheric current sheets and lightning storms — passive energy sources — to map geologic structures to depths of 1500 meters or more.

of $8.00/tonne milled.

- The risks associated with understanding copper and gold recovery and processing costs have been largely mitigated through the past 8 years of operation on the same ore types,
- The in-pit haul road that extends from surface to over 350 metres below surface enables access to a majority of the Exploration Target without the need for extensive capital and time invested in underground decline advance and ventilation costs,
- The extensive geotechnical database resulting from open pit mining since 2011,
- The existing fully constructed and permitted Tailings Storage Facility, and
- The existing granted Mining Lease and Environmental Permits

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Exploration Activities

The next stage is to test the conductivity zone through drilling the target approximately 400-600 metres from the proposed UG decline.

Authorised for release by the Board of Hillgrove Resources Limited.

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Competent Person's Statement

The information in this report that relates to Exploration Target and Exploration Results is based on and fairly represents information and supporting documentation compiled by Peter Rolley, a Competent Person, a full-time employee of Hillgrove Resources Limited, and a member of the Australian Institute of Geoscientists. Mr Rolley has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the activity being undertaken to qualify as a Competent Person as defined in the 2012 edition of the 'Australian Code for Reporting Exploration Results, Mineral Resources and Ore Reserves'. Mr Rolley consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

Further information on the Kanmantoo UG Mineral Resources was released to the ASX on 11 May 2022 and 26 July 2022, which is also available on the Hillgrove Resources website at www.hillgroveresources.com.au

Hillgrove Resources confirms that it is not aware of any new information or data that materially affects the information included in that market announcement and, in the case of estimates of Mineral Resources and Ore Reserves that all material assumptions and technical parameters underpinning the estimates in the relevant market announcement continue to apply and have not materially changed. Hillgrove Resources confirms that the form and context in which the findings of the Competent Persons (Peter Rolley in relation to the Exploration Target and to the Mineral Resource Estimates and Lachlan Wallace in relation to the Ore Reserve Estimates) are presented, have not been materially modified from the original market announcement.

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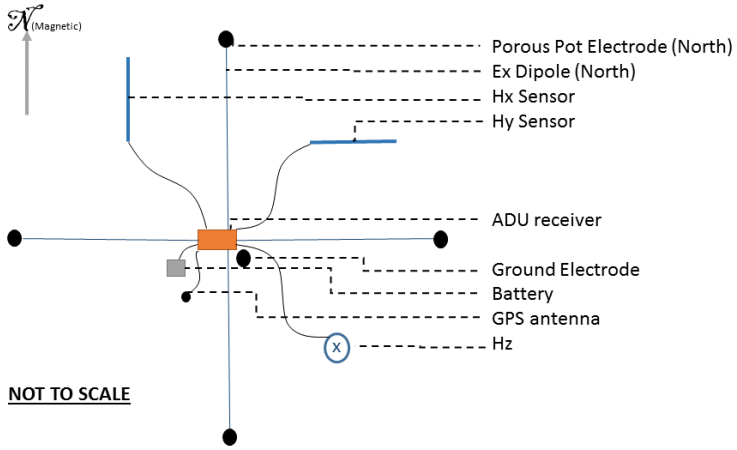
APPENDIX A – JORC Table 1

Section 1 Sampling Techniques and Data

Criteria	Commentary
Sampling techniques	The resistivity responses have been sampled with AMT/MT technology by a competent user of the technology with more than 10 years experience in this field. In 2023 the 3D MT grid has 38 stations ~250 metres apart and every station recorded for >36 hours. After a review of the quality of data for every station the depth of the inversion model was restricted to 1700 metres below surface. The 2023 MT data was merged with the previously collected 2018 2D MT data set before inversion. 3D inversion software is via CCG software.
Drilling techniques	No new drilling reported so not applicable
Drill sample recovery	Not applicable
Logging	Moombarriga used the most recent Phoenix MT systems and magnetometers to log the resistivity responses. Layout of field sites 
Sub-sampling techniques and sample preparation	Not applicable

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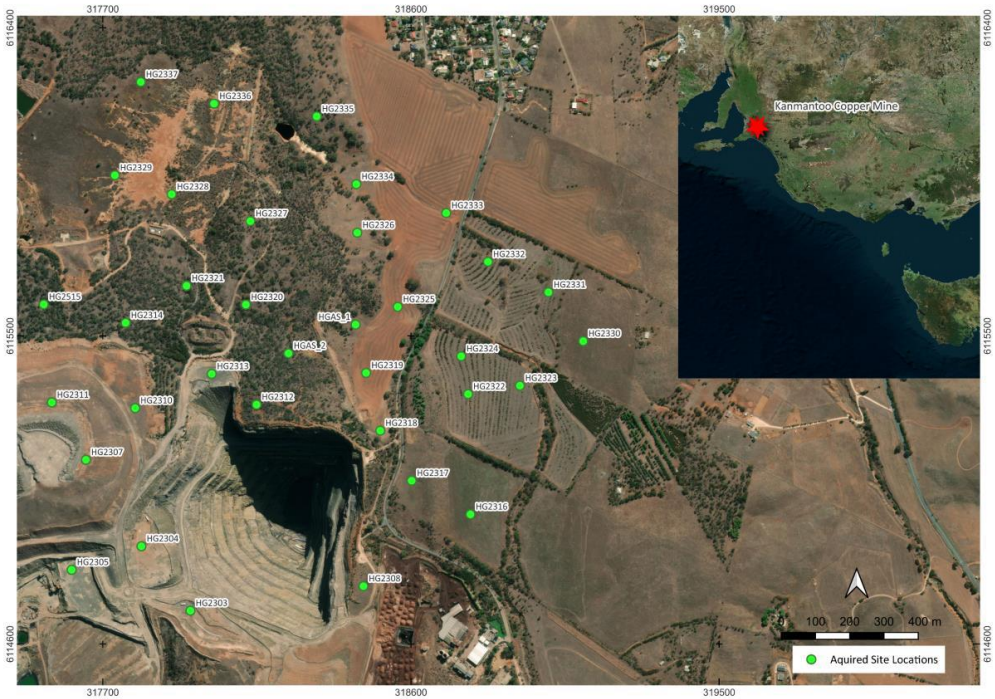
Criteria	Commentary
Quality of assay data and laboratory tests	Not applicable
Verification of sampling and assaying	MT base station located in an area of “quiet” electromagnetic noise approximately 10 kms south-east of the gridded area.
Location of data points	The map projection of Map Grid of Australia 1994 - Zone 54, (MGA94-54) was used.  MT sample locations are shown in above image. Green pins are 2018 AMT/MT data points and the red pins are the 2023 MT data points. MT Sample locations recorded by hand held GPS and elevations from LIDAR topographic survey.

Criteria	Commentary
Data spacing and distribution	As shown above
Orientation of data in relation to geological structure	The 2018 2D lines were oriented at ~100deg east west, normal to the strike of the Kavanagh Cu zone The 2013 Mt survey was a staggered grid over the area of interest as shown above The MT inversion grid is oriented to be normal to the average strike of the Kanmantoo Cu-Au mineralisation.
Sample security	All data electronically despatched to a private account of the Perth office of the contractor each evening
Audits or reviews	No audits of Moombarriga's activities or inversion parameters.

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Section 2 Reporting of Results

Criteria	Commentary
Mineral tenement and land tenure status	• The Kanmantoo Copper Deposit is situated 55kms south-east of Adelaide on Mining Lease (ML) 6345 and is owned 100% by Hillgrove Resources Limited (HGO). • The Mining Lease overlies freehold land also held by Hillgrove Resources. • There are no Native Title interests, nor are there any historical or environmental issues considered material to this Mineral Resource.
Exploration done by other parties	• The Kanmantoo Copper Deposit has a long history of exploration and mining dating back to the mid-19th century. • In 1962, Mines Exploration Pty Ltd discovered a number of strong geophysical anomalies which were quickly followed up by a large diamond drilling program of 15,800m. The results of this program led to a decision to begin open pit mining in 1968. • Hillgrove Resources commenced exploration drilling in 2004 and since then have completed a number of exploration drill campaigns which have resulted in extensions and additions to the known deposit. Open pit mining commenced in early 2011 and processing of open pit ore was completed in 2020. • Ground gravity survey in 2015 by Haines Surveys and modelled by D. McInnes of Montana G.I.S • Heli-borne magnetic survey by HGO in 2005.
Geology	• Mineralisation occurs as a complex system of structurally controlled veins, with mineralisation typically forming veins and lenses of chalcopyrite, pyrrhotite, +/- pyrite, +/-magnetite, within a quartz + biotite + andalusite + garnet + chlorite schist host rock. Structural studies suggest the main controls on the mineralisation are north-south striking shear zones and north-north-east/north-east striking cross-shears and tension veins.
Drill hole Information	• No new drill holes are quoted in this release.
Data aggregation methods	• No data aggregation or equivalent calculations
Mineralisation widths and intercept lengths	• No new intersections reported in this release.
Diagrams	• Diagrams that are relevant to this release have been included in the body of the release.
Balanced reporting	• All zones comprising the Exploration Targets have been reported in this release.
Other exploration data	• There is no other exploration data used in approximating the Exploration Targets
Further work	• The Company is undertaking a drilling program to continue testing the Exploration Targets.

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