

Monday, 21 March 2022

## MULTIPLE HIGH-GRADE COPPER INTERSECTIONS WITHIN A BROADER +100 METRE ZONE OF COPPER MINERALISATION

### HIGHLIGHTS

- Four new diamond holes into the Kavanagh mineral zone have all intersected strong Cu-Au mineralisation with highlights including:
  - **36.5m @ 1.76% Cu**, 0.29 g/t Au from 367.7m downhole (KTDD208\_W2)
  - **17.85m @ 1.46% Cu**, 0.08g/t Au from 395.5m downhole (KTDD208\_W4)
  - **13.8m @ 0.89% Cu**, 0.04 g/t Au from 505.3m downhole (KTDD208\_W3)
    - Part of a wider zone of **sulphide mineralisation of 103.6m @ 0.63% Cu**
  - **15.3m @ 2.15% Cu**, 0.21 g/t Au from 471.0m downhole (KTDD208\_W1)
    - Part of a wider zone of **sulphide mineralisation of 97m @ 0.69% Cu**
- Kavanagh surface drilling program is complete with drilling continuing at Nugent.
- Upon completion of the drilling program at Nugent, Hillgrove will update the respective Mineral Resource Estimates for the Kavanagh and Nugent lode systems which is expected to grow the Mineral Resource Estimate in both size and geological confidence.
- Funding discussions for Kanmantoo Underground restart have advanced to definitive agreements stage, with the required capital of \$26m expected to be funded entirely by debt.

Commenting on the drilling results, Hillgrove CEO and Managing Director, Lachlan Wallace said:

*“It is a very predictable mineral system to drill, with every drill hole since May 2021 yielding significant intersections of copper. The recent drilling results continue this trend, with multiple high-grade zones being delineated within wider zones of copper mineralisation of around 100m in downhole length. As these holes are incorporated into the geological model, it is expected the resource estimate will grow both in size and in geological confidence.*

*The broader mineral zones in holes KTDD208 W1 and W4 complement previous drill results in 2021, including 170m at 1.0% Cu and 166m at 0.9% Cu, and demonstrate the presence of a large copper system at Kanmantoo. These wide mineralised zones provide a significant opportunity to increase annual copper production above the Stage 1 plan presented last year, which forecast almost \$200m of free cash flow in the initial three years, at prices below current spot, and only requires \$26m of working capital. With ample*

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*processing and tailings storage capacity already on site, any increase in copper production will not require additional capital or permitting and would be expected to reduce the average all in sustaining cost per tonne of copper produced.*

*On the back of the continuing strong copper demand and the expectation that debt funding for the entire restart capital will be secured in the near term, we are bringing forward potential copper production by accelerating the decline development through a short-term mining contract using traditional drill and blast practices. The Komatsu MC51 mechanical cutting machine continues its trial by cutting the second portal for the ventilation circuit, providing valuable infrastructure development which will also assist in realising earlier copper production.*

*Kanmantoo remains a unique proposition as one of the few ASX listed developers that can ramp into production quickly and at low cost to take advantage of the record copper price environment. With funding discussions advancing to documentation stage, and the contract tender process underway, we remain firmly on track to commence operations in 2022."*

Hillgrove Resources Limited (Hillgrove, the Company) (ASX:HGO) is pleased to provide the following Kanmantoo Underground drilling update, located 55kms southeast of Adelaide in South Australia and located within a fully Permitted Mine Lease with processing infrastructure. In total, four diamond holes have been drilled in late-2021 into the Kavanagh Cu-Au mineral system, which completes the surface drilling program in this area. Further drilling into the Kavanagh Cu-Au mineral system will be undertaken from the underground development, which is currently in progress.

This drilling update demonstrates the confidence the Company has in the geometry and tenor of mineralisation in the Kavanagh mineral system as the Company continues to advance towards recommencing copper concentrate production in the current high price environment for copper metal.

The wide Cu-Au intersections (real widths are approximately 70-80% of downhole widths) in drill holes KTDD208\_W1 and W4 are confirmation of the previously reported wide zones of multiple Cu-Au intersections in this area of the Kavanagh mineral system, and includes:

- **170.65m @ 1.01% Cu, 0.11 g/t Au from 339m downhole (KTDD205<sup>1</sup>), including:**
  - 11.0m @ 1.65% Cu, 0.10 g/t Au, from 339.0m downhole, plus
  - 23.0m @ 2.48% Cu, 0.24 g/t Au, from 385.0m downhole, plus
  - 5.0m @ 1.86% Cu, 0.38 g/t Au, from 415.0m downhole, plus
  - 12.2m @ 1.89% Cu, 0.49 g/t Au, from 451.0m downhole, plus
  - 9.0m @ 1.94% Cu, 0.14 g/t Au, from 476.0m downhole, plus
  - 13.8m @ 2.06% Cu, 0.12 g/t Au, from 495.85m downhole.
  
- **166.3m @ 0.9% Cu, 0.13 g/t Au from 332m downhole (KTDD208<sup>2</sup>) including:**
  - 30.25m @ 1.32% Cu, 0.08 g/t Au from 332m downhole, plus
  - 106.3m @ 0.95% Cu, 0.17 g/t Au from 392.0m, including:

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<sup>1</sup> Refer ASX announcement of 6 May 2021

<sup>2</sup> Refer ASX announcement of 1 September 2021

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- 9.0m @ 2.19% Cu, 0.17 g/t Au from 332m downhole, plus
- 8.25m @ 2.16% Cu, 0.07 g/t Au from 354m downhole, plus
- 29.55m @ 1.39% Cu, 0.46 g/t Au from 392m downhole, plus
- 10.0m @ 2.16% Cu, 0.11 g/t Au from 443m downhole, plus
- 17.7m @ 1.55% Cu, 0.09 g/t Au from 468m downhole.

The KTDD205, KTDD208 and KTDD208\_W1 and W4 drill holes have all intersected multiple higher-grade Cu-Au lodes across a wide zone of mineralisation over approximately 130m vertically (920-780RL), approximately 80m apart along strike, and over 150m in horizontal width.

Table 1 lists the new drill intercepts reported in this release.

**Table 1 List of new drill intercepts in this release at 0.6% Cu cutoff**

Hole ID	From (metre's downhole)	Length (metres)	Cu%	Au g/t
KTDD208_W1	358.9	3.3	2.38	0.12
	426	14	1.29	0.2
	471	15.3	2.15	0.21
	517.8	5.2	1.48	0.06
KTDD208_W2	367.7	36.5	1.76	0.29
KTDD208_W3	505.3	13.8	0.89	0.04
KTDD208_W4	395.5	17.85	1.46	0.08
	474	16	0.98	0.21

The Company commenced drilling the underground Cu-Au opportunity in 2019, and to date assays have been received for 72 drill holes into the Kavanagh, Nugent, Spitfire and South-West Kavanagh Cu-Au mineralisation.

These 72 drill holes have yielded 100 Cu-Au intersections greater than 3m in width with >0.6% Cu, and only six holes with sub-grade copper. This is an outstanding achievement given the strong structural controls of the Cu-Au mineralisation and is a testimony to the controlled drilling practices employed.

Overall, every drill hole since the May 2021 drilling updates has delivered a Cu-Au intercept that confirms the underground opportunity at Kanmantoo.

The drill results demonstrate several important features of the Kanmantoo mineralisation:

1. Infill drilling of the Kavanagh and associated Cu-Au mineral system has assured the Company of the continuity and tenor of the copper-gold mineralisation in these areas.

2. Extensional down-dip drilling continues to intersect Cu-Au mineralisation to a depth of over 800 metres below surface and open.
3. Along-strike drilling continues to expand the areal footprint of the mineralisation.
4. Initial drilling of the Spitfire and South-West Kavanagh Cu-Au mineralisation affirms these targets for future drilling and possible inclusion in the underground feasibility studies.

### **Plans to Bring Forward Proposed Production Restart**

The success of the program to date has continued to increase the robustness of the Mineral Resource Estimate and solidifies our production restart plan. The latest drilling results are expected to grow the Resource in both size and geological confidence and the Company intends to release an updated Mineral Resource Estimate after the completion of the Nugent and Kavanagh drilling program.

In light of the above, the continued strong demand in copper and our advanced discussions with debt providers for the entire production restart capital, Hillgrove is considering bringing forward planned copper production and is accelerating development efforts to fastrack access to ore. With funding discussions advanced and at definitive agreements stage, subject to Board approval, the Company expects to be in a position to commence production restart in 2022 as scheduled. The Company will provide further information on its targeted timeline closer to the completion of its debt financing.

Further details of the drilling are provided in Appendices A and B.

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### **ABOUT HILLGROVE**

Hillgrove is an Australian mining company listed on the Australian Securities Exchange (ASX: HGO) and focused on underground development at the Kanmantoo Copper Mine in South Australia and mineral exploration in the south-east of South Australia. The Kanmantoo Copper Mine is located less than 55 kilometres from Adelaide in South Australia.

### **Competent Person's Statement**

The information in this release that relates to the Exploration Results is based upon information compiled by Mr Peter Rolley, who is a Member of The Australian Institute of Geoscientists. Mr Rolley is a full-time employee of Hillgrove Resources Limited and has sufficient experience relevant to the styles of mineralisation and type of deposit under consideration 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 (JORC Code)'. Mr Rolley has consented to the inclusion in the release of the matters based on their information in the form and context in which it appears.

**APPENDIX A**

The drill holes in this release were undertaken from the natural surface at a single site along the eastern edge of the completed Giant open pit.

The four drill holes reported herein were drilled from a single parent HQ drill hole (KTDD208), the results of which were reported on 1<sup>st</sup> September 2021, utilising conventional wedges and directional drilling techniques to achieve the desired intersection depths and targets. The navigational drilling has enabled structural zones to be successfully intersected within 10m of target at 400m to 600m below surface.

It is important to note that the past and current drill holes are all at various angles to section, and that the mineralisation strikes at ~015deg, dips at ~ -75deg east, and plunges at ~-70deg northeast. All holes dip at -44deg to -38deg through the mineralised zones and true width is approximately 70% to 80% of the downhole lengths.

Collar co-ordinates of the holes reported in this release and the hole lengths are provided in Table 2. Refer to Figure 1 for a location photo. Refer to Table 1 for a list of the intersections being newly released.

**Table 2 Collars of the drill holes reported in this document (MGA94\_Zone 54)**

	East	North	Local Elevation	ASL Elevation	Total Depth	Wedge Start	Drill Length
KTDD208_W1	318475.7	6114954	1169.2	169.2	558.6	125.7	432.9
KTDD208_W2	318475.7	6114954	1169.2	169.2	525.7	159.7	366.0
KTDD208_W3	318475.7	6114954	1169.2	169.2	537.7	141.4	396.3
KTDD208_W4	318475.7	6114954	1169.2	169.2	603.6	129.2	474.4

Drilling rates are up to 72m of NQ2 per 12 hour shift, and core recovery is >99% and RQD is 98-100%. All core is being structurally logged to assist in understanding the local controls on the mineralisation. In addition, the core is logged for geotechnical quality to assist with underground assessments.



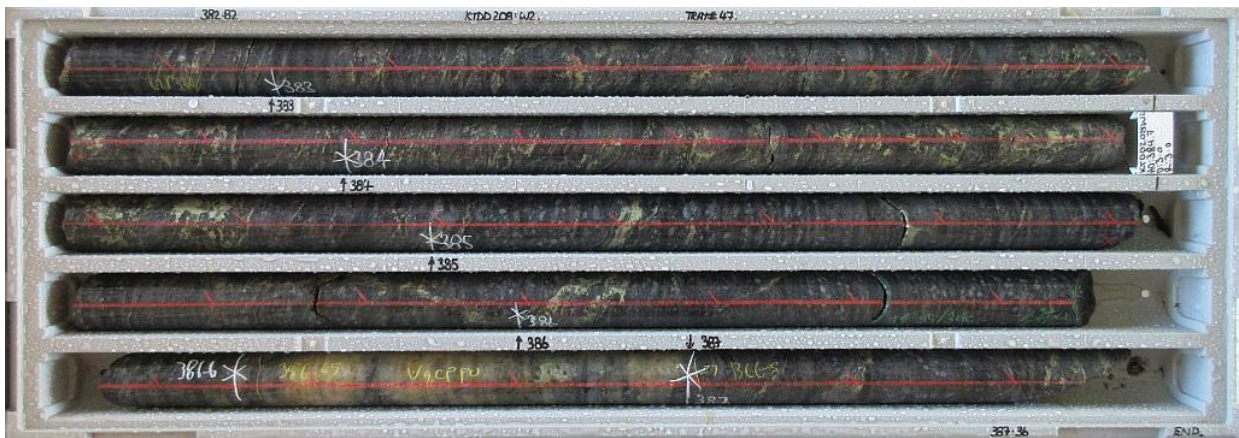
**Figure 1** Location of diamond drilling sites – aerial view looking north-north-west across the Giant open pit



Figure 2 provides an example of the Cu-Au mineralisation in KTDD208\_W2 in Kavanagh at a downhole depth of 382m. The vein chalcopyrite-pyrrhotite is hosted in a garnet andalusite biotite schist. Note the excellent core recovery.

**Figure 2** Cu-Au mineralisation in KTDD208\_W2 in Kavanagh

The interval 382.0 to 387.0m shown in this photo is an average of 5.0m @ 3.65% Cu, 0.45 g/t Au.





**Summary**

The diamond drilling of the Kavanagh Cu-Au mineralisation has proceeded according to plan and completed within budget. Drill results are consistent with previous drilling in the vicinity and are expected to enable updated mine planning studies to be finalised.

The wide zones of multiple Cu-Au copper intersections in the drill holes of previously reported KTDD205 and KTDD208, and KTDD208\_W1 and \_W4 in this release, show strong Cu-Au mineralisation and indicate that the mineralisation is amenable to a mine plan to optimise the copper cut-off grade strategy to maximise milling efficiencies.

Figure 3 is a plan view of the Kanmantoo mineral system showing the location of the KTDD208 drill holes and Figures 4 to 7 are cross sections of KTDD208 and its associated wedges copper assay results.

**Figure 3 Plan view showing the location of KTDD208 and its associated wedges**

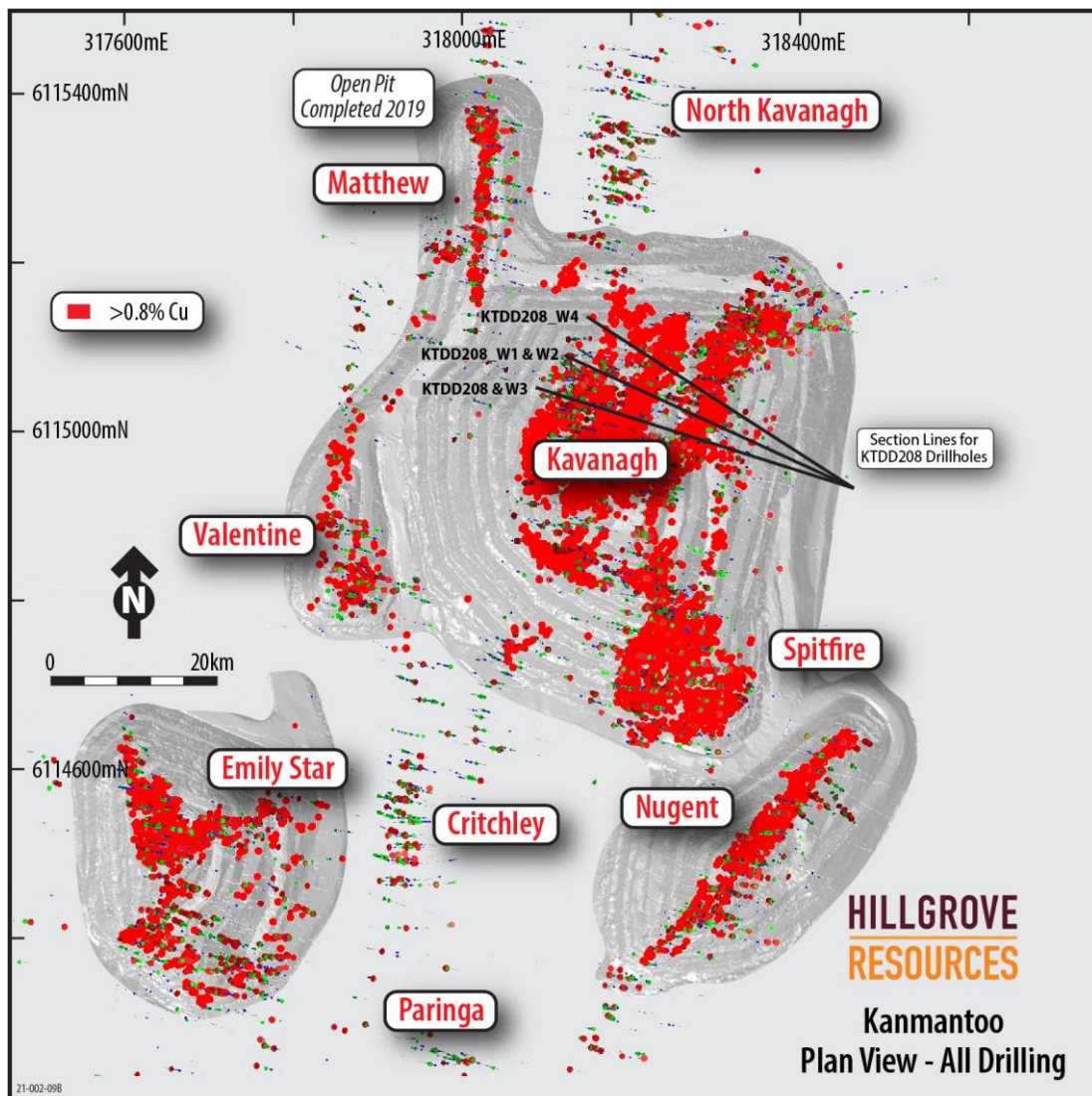


Figure 4 Cross section showing KTDD208 and its wedges projected onto a single section

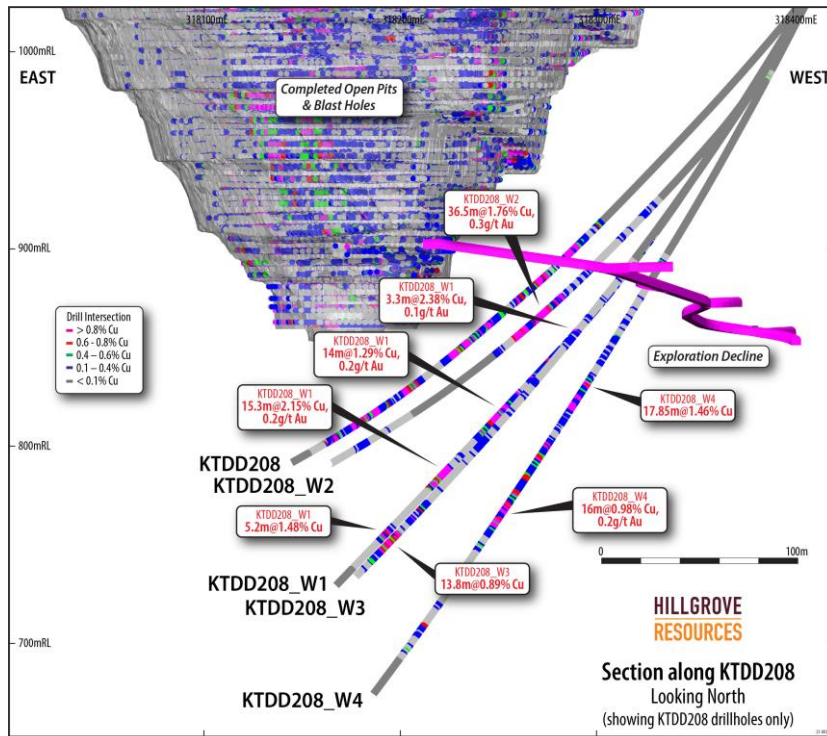


Figure 5 Cross section view of KTDD208\_W1 and KTDD208\_W2

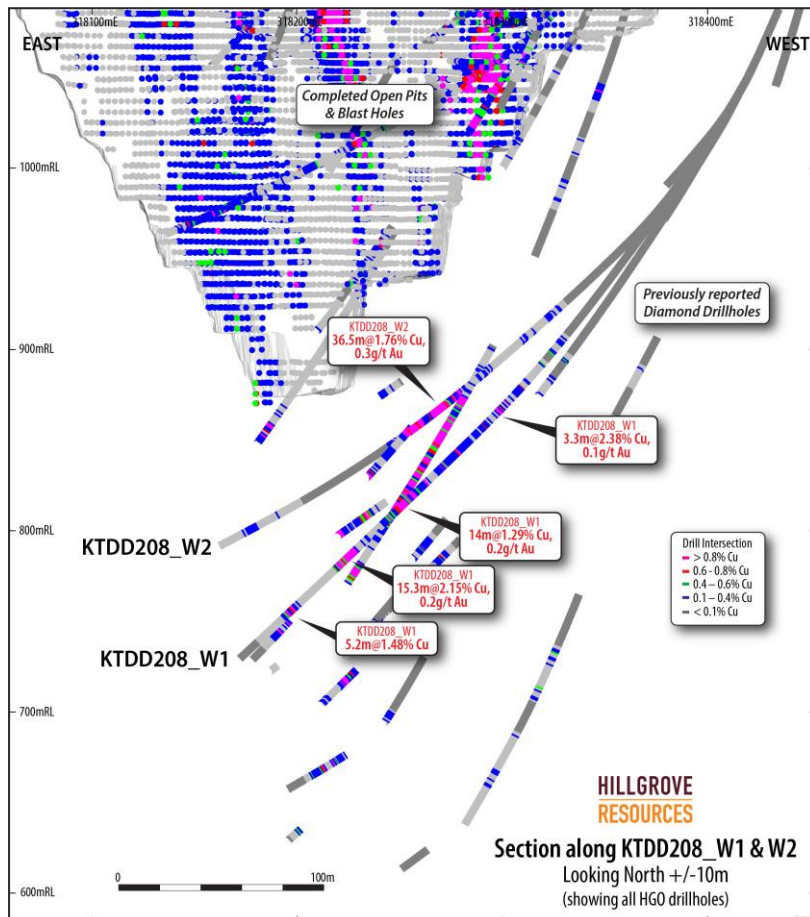




Figure 6 Cross section view of KTDD208 and KTDD208\_W3

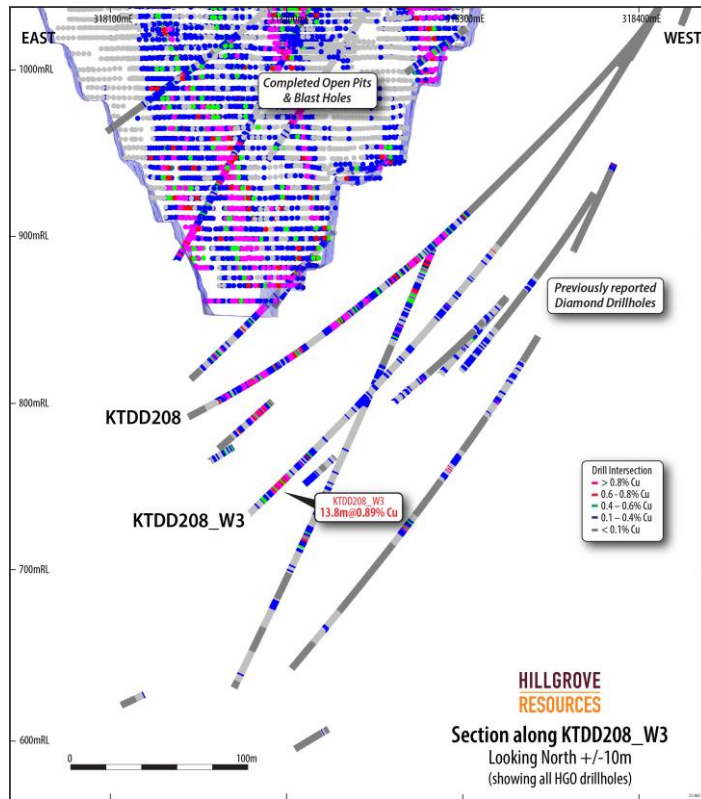
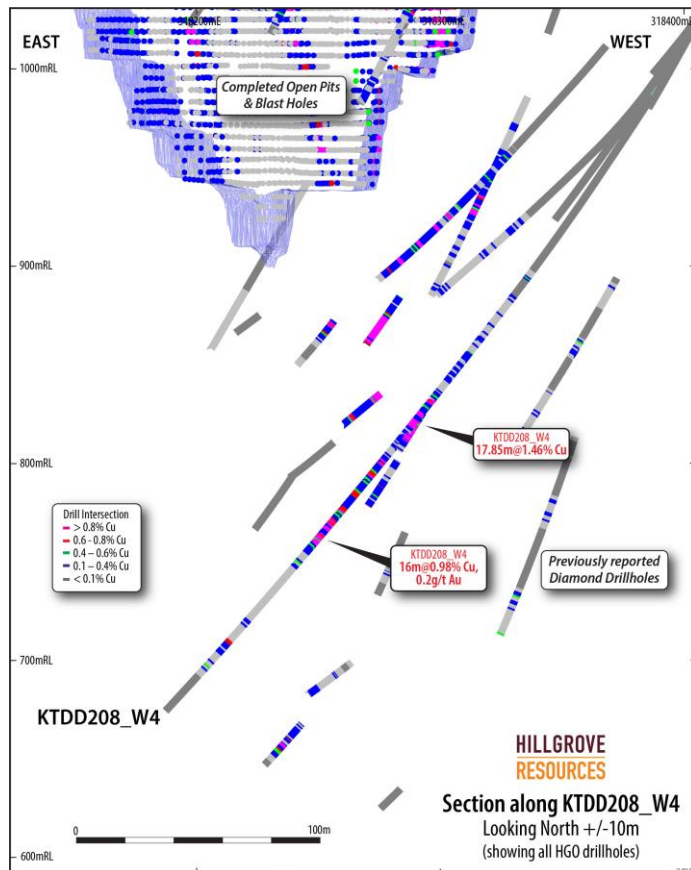


Figure 7 Cross section view of KTDD208\_W4



## APPENDIX B – JORC Table 1

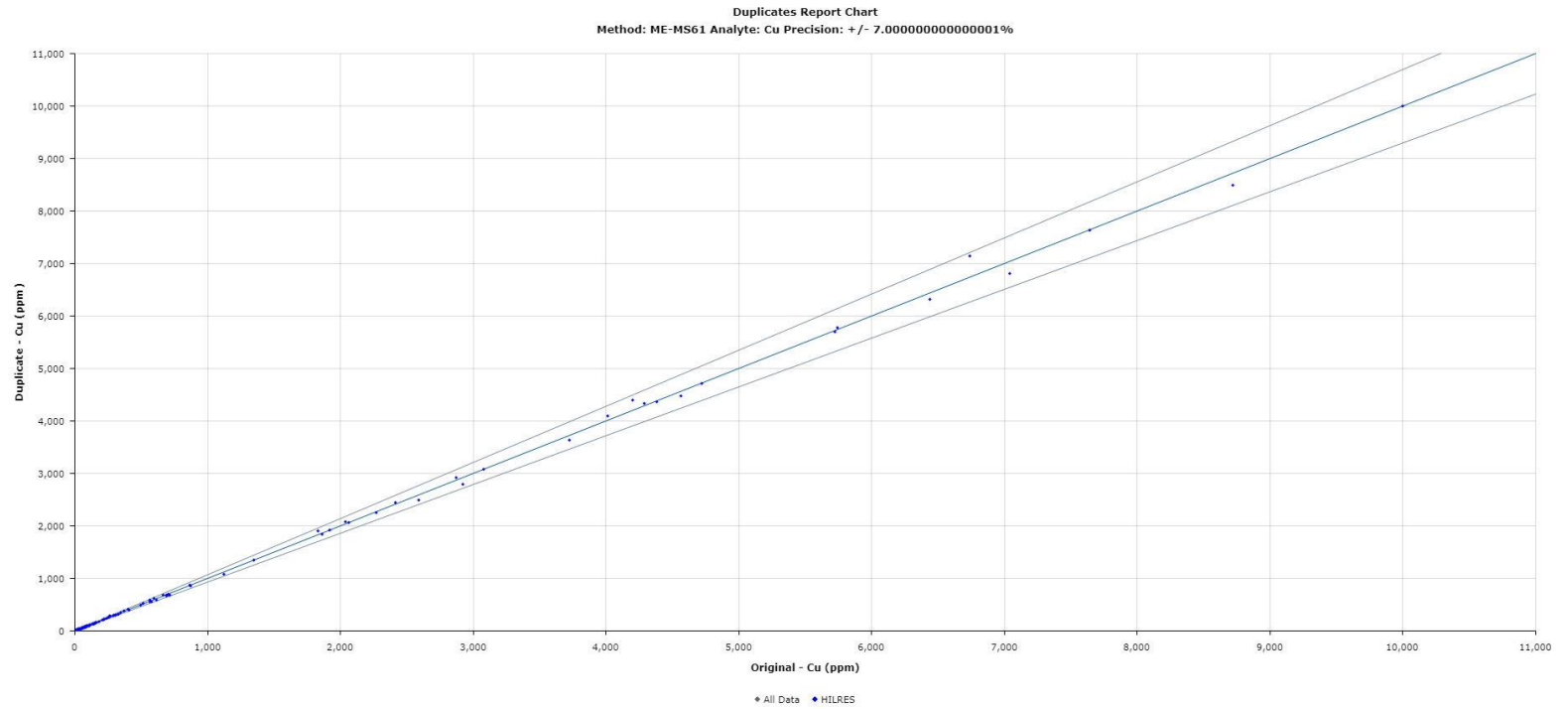
## Section 1 Sampling Techniques and Data

Criteria	Commentary
<i>Sampling techniques</i>	<ul style="list-style-type: none"> <li>The 2021-2022 Diamond Drill Hole (DDH) sampling at Kanmantoo was conducted as per the Hillgrove Resources procedures and QAQC protocols.</li> <li>Sample intervals from 1.0m to 0.30m as determined by geology through visibly mineralised zones were split from the drill core, with the drill core sawn in half with a diamond core saw.</li> <li>Samples were prepared by ALS Adelaide with each sample being wholly crushed to &lt;2mm and then pulverised to &gt;85% passing &lt;75µm.</li> </ul>
<i>Drilling techniques</i>	<ul style="list-style-type: none"> <li>All drilling undertaken by external drilling contractor. HQ core as a precollar. Thence NQ drilling for all subsequent daughter holes.</li> </ul>
<i>Drill sample recovery</i>	<ul style="list-style-type: none"> <li>Recovered drill core metres were measured and compared to length of drill hole advance to calculate core recovery for every core run. On average sample recovery is &gt;98%. There is no correlation between sample recovery and copper grades in this DDH drill program.</li> </ul>
<i>Logging</i>	<ul style="list-style-type: none"> <li>All drill core was logged for lithology, alteration, weathering and mineralisation by Hillgrove geologists in accordance with Hillgrove's Core Logging Procedure. Colour and any additional qualitative comments were also recorded.</li> <li>High quality photographs of all drill core before being sampled were taken under controlled light at the HGO core yard at Kanmantoo.</li> <li>All drill core is stored at Hillgrove's Kanmantoo core yard facility.</li> <li>All geological logging is recorded into LogChief (a database product from Maxwell Geosciences) templates and visually validated before being imported into the Hillgrove drill hole database. Additional validation is conducted automatically on import.</li> <li>In addition a structural log is recorded utilising the "base of core" orientation mark collected during diamond drilling.</li> <li>A geotechnical log is also recorded.</li> </ul>
<i>Sub-sampling techniques and sample preparation</i>	<ul style="list-style-type: none"> <li>For selected intervals the core was sawn in half and the half core despatched to ALS for each sample interval and the entire sample then crushed and 1kg riffle split from the crushed mass and the 1kg sub-sample then pulverised. A sub-split of 200 grams was then split by ALS and retained, and the reject pulverised material returned to Hillgrove. From the 200 gram sub-split a 2 gram aliquot was scooped and weighed by ALS for 4-acid digestion for base metals and a separate aliquot for 30gram Fire assay.</li> <li>Hillgrove have detailed sampling and QAQC procedures in place to ensure sample collection is carried out to maximise representivity of</li> </ul>

Criteria	Commentary
	<p>the samples and minimise contamination and maintain sample numbering integrity.</p>
<p><i>Quality of assay data and laboratory tests</i></p>	<ul style="list-style-type: none"> <li>• All samples were submitted to ALS for analysis. ALS code ME-MS61 using a 4-acid digest with determination by Mass Spectrometry. If the copper result was greater than 1%, the analysis was repeated using a modified acid digestion technique.</li> <li>• Gold is assayed by 30g Fire Assay. If &gt; 10 g/t then repeated by fire assay with a gravimetric finish</li> <li>• The QAQC of sample preparation and analysis processes were via the following samples:             <ul style="list-style-type: none"> <li>○ Certified reference materials (CRM's) inserted into the sample sequence at a frequency of one in 20. OREAS standards 58P, 504b, and 502b have been used to provide a grade range from 0.511 - 1.1% Cu, 2.09 - 3.07 Ag and 0.495 - 1.6 g/t Au.</li> <li>○ Results from all returned QAQC samples provide reasonable confidence as to the accuracy of the assay results used in the estimation. All CRM results all fall within the expected ranges.</li> <li>○ Laboratory inserted QAQC samples were inserted with a minimum of two standards and one blank for every batch of 40 samples.</li> </ul> </li> <li>• Quartz flushes are introduced to the bowl pulverisers within every high sulphide interval and the flush material assayed. These are monitored and where Cu contamination of the quartz flush occurs the batch is repeated by the assay lab. For the holes reported there are no examples of sulphides contaminating successive samples via sample preparation processes.</li> <li>• Quartz washes are also utilised through the Boyd crusher where high sulphides are present and identified by the logging geologist to ALS.</li> <li>• Hillgrove's quality policy is that at a minimum of 5% of all samples are CRM's, and 5% of samples submitted are blanks thus ensuring that as a minimum, 10% of all samples submitted for analysis are Hillgrove QAQC samples.</li> <li>• The following charts are the duplicate precision for assays submitted to ALS during the period that the KTDD208_W1 to W4 samples were assayed.</li> </ul>

Criteria

Commentary





Criteria	Commentary
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<p><i>Verification of sampling and assaying</i></p>	<ul style="list-style-type: none"> <li>• Sample data sheets are prepared in Excel and printed for technicians use. All core is marked for sampling and confirmed by the logging geologist. Sample Sheets also include the sample number sequence and the sample numbers to be assigned to the QAQC samples. Sample intervals input from the excel spreadsheet into an SQL database via Datashed. Data was visually checked by the Geologist prior to import and additional validation was carried out by the database upon import. Copper results were reported in ppm units from the laboratories and then converted to a % value within the database.</li> </ul>
<p><i>Location of data points</i></p>	<ul style="list-style-type: none"> <li>• The map projection of Map Grid of Australia 1994 - Zone 54, (MGA94-54) was used for all work undertaken for this drilling.</li> <li>• All drill hole collars were surveyed with a Trimble survey station. The accuracy of this instrument is 0.01m. All pick-ups were reported in MGA94-54 coordinate system. Downhole surveys were determined using a gyro survey instrument at 24m intervals. All holes were repeat surveyed for verification.</li> </ul>
<p><i>Data spacing and distribution</i></p>	<ul style="list-style-type: none"> <li>• See Table 2 and Figures 1 to 9 in the body of the text for drill hole locations.</li> </ul>

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Criteria	Commentary
<i>Orientation of data in relation to geological structure</i>	<ul style="list-style-type: none"> <li>• All holes are angled drill holes, dipping at -29 to -70deg towards 250 – 280deg (true). This is approximately normal to the observed strike of the mineralisation from in-pit mapping,</li> <li>• Dominant mineralisation trends as measured from in-pit mapping are strike 015deg and dip -75deg to east.</li> </ul>
<i>Sample security</i>	<ul style="list-style-type: none"> <li>• A Hillgrove employee is present for the collection of core trays from the DDH rig and is also responsible for collecting and organising the samples ready for assay. Hillgrove has a detailed sample collection/submission procedure in place to ensure sample security.</li> <li>• Drill core is transported in covered trays from the drill site to Hillgrove’s core yard at Kanmantoo in Hillgrove vehicles under the supervision of Hillgrove staff.</li> <li>• Transport of the half-sawn drill core samples is by dedicated road transport to the Adelaide sample preparation facility. All samples are transported in sealed plastic bags and are accompanied by (either paper form or by email) a detailed sample submission form.</li> <li>• On receiving a batch of samples, the receiving laboratory checks received samples against a sample dispatch sheet supplied by Hillgrove personnel. On completion of this check a sample reconciliation report is provided for each batch received.</li> </ul>
<i>Audits or reviews</i>	<ul style="list-style-type: none"> <li>• There has not been an external review of this DDH drilling program. Previous audits of the Hillgrove sampling methods were reviewed by independent consultant in 2008 and were considered to be of a very high standard.</li> </ul>

## Section 2 Reporting of Exploration Results

Criteria	Commentary
<i>Mineral tenement and land tenure status</i>	<ul style="list-style-type: none"> <li>The Kanmantoo Cu-Au mine is situated 55kms south-east of Adelaide on Mining Lease ML6345 and is owned 100% by Hillgrove Resources Limited (HGO).</li> <li>HGO owns the land covered by the Mining Lease.</li> </ul>
<i>Exploration done by other parties</i>	<ul style="list-style-type: none"> <li>Hillgrove Resources commenced exploration drilling in 2004 and since then has completed a number of exploration sampling and mapping campaigns which have resulted in defining the drill targets. The Table 1 of the 2019, 2020 and 2021 Kanmantoo drilling was reported on 10 October 2019, 3 September 2020, 3 May 2021, 6 May 2021, and 1 September 2021 respectively.</li> </ul>
<i>Geology</i>	<ul style="list-style-type: none"> <li>Mineralisation occurs as a complex system of structurally controlled veins and disseminations of chalcopyrite, pyrrhotite, pyrite, magnetite, within a quartz + biotite + andalusite ± garnet ± chlorite +/- staurolite schist host rock. Structural studies suggest the mineralisation is within brittle structures that have been multiply re-activated.</li> </ul>
<i>Drill hole Information</i>	<ul style="list-style-type: none"> <li>Drill collars, surveys, intercepts are reported in the body of this release.</li> </ul>
<i>Data aggregation methods</i>	<ul style="list-style-type: none"> <li>Intercepts tabulated in the body of the report are amalgamated over a minimum down hole length of 3.5m &gt; 0.8% Cu with a maximum of 2m internal dilution &lt; 0.6% Cu. No assays were cut before amalgamating for the intercept calculation.</li> <li>No metal equivalent values have been reported.</li> </ul>
<i>Mineralisation widths and intercept lengths</i>	<ul style="list-style-type: none"> <li>Table of downhole mineralised intercepts is reported in the body of this release.</li> </ul>
<i>Diagrams</i>	<ul style="list-style-type: none"> <li>Diagrams that are relevant to this release have been included in the body of the release.</li> </ul>
<i>Balanced reporting</i>	<ul style="list-style-type: none"> <li>All drill holes have been reported.</li> </ul>
<i>Other exploration data</i>	<ul style="list-style-type: none"> <li>In situ rock density has been measured by wet immersion method to assess if there is a correlation between Cu grade and rock density. The results indicate that the bulk rock density of 3.09 t/m<sup>3</sup> as used by the mine site for the past 8 years is still a reasonable representation of bulk density for all mineralisation.</li> </ul>
<i>Further work</i>	<ul style="list-style-type: none"> <li>Geological interpretation of the geology and assays to estimate a resource suitable for underground evaluation studies.</li> </ul>