

Thursday, 10 October 2019

EXCELLENT DRILL RESULTS FROM KANMANTOO CU-AU DEPOSIT

Further to the announcement on 20 June 2019, Hillgrove Resources Limited (Hillgrove, the Company) (ASX:HGO) is pleased to provide the following Kanmantoo Underground development drilling update.

As part of the evaluation of a possible underground mining development below the Giant Open Pit that would work in conjunction with the Pumped Hydro Energy Storage (PHES) development, the Company initiated a drilling program in late June to confirm the down-dip depth extension, grade and lateral continuity of the higher grade sections of the Kavanagh Cu-Au lodes.

A total of 12 diamond drill holes have now been completed to increase geological confidence for resource estimation, underground mine planning and evaluation between 850 and 750 RL.

Assays for all holes have been received with every drill hole intersecting Cu-Au mineralisation. The intersections clearly demonstrate the down dip and lateral continuity of the higher grade copper mineralisation on the Kavanagh Cu-Au lodes. Highlights from the drilling¹ include:

- KTDD187_W1 14.55m @ 1.9% Cu, 0.08 g/t Au, 4.4 g/t Ag from 442.45m downhole
- KTDD187_W2 16.37m @ 3.0% Cu, 0.21 g/t Au, 7.8 g/t Ag from 434.73m downhole
- KTDD187_W3 20.0m @ 2.1% Cu, 0.26 g/t Au, 6.8g/t Ag from 421m downhole
- KTDD187_W5 20.15m @ 1.5% Cu, 0.1 g/t Au, 4.1 g/t Ag from 393.25m downhole
- KTDD187_W5 14.0m @ 2.4% Cu, 0.3 g/t Au, 6.7 g/t Ag from 420m downhole
- KTDD187_W6 22.5m @ 2.5% Cu, 0.11 g/t Au, 6.9 g/t Ag from 372m downhole
- KTDD187_W7 10.3m @ 2.7% Cu, 0.27 g/t Au, 8.1 g/t Ag from 390.7m downhole
- KTDD187_W8 7.5m @ 1.9% Cu, 0.53 g/t Au, 5.6 g/t Ag from 461m downhole
- KTDD187_W10 18m @ 2.3% Cu, 0.16 g/t Au, 7.8 g/t Ag from 367m downhole

Details of the drilling are provided in Appendices A and B.

The next steps for the potential Kanmantoo underground development, which are being progressed in unison with the drilling program, are as follows:

- Completion of a Mineral Resource Estimate;
- Completion of final designs and feasibility study, and conversion to an Ore Reserve;
- Execution of an agreement with AGL to provide a guaranteed minimum period for mining;
- Completion of the mining approvals process; and
- Securing funding for working capital requirements.

¹ intersections at a 0.6% Cu cut-off grade over a minimum of 5m horizontal width.

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ABOUT HILLGROVE

Hillgrove is an Australian mining company listed on the Australian Securities Exchange (ASX: HGO) and focused on the operation of 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 and to the 2017 Exploration Target 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 Kanmantoo diamond drilling program is being undertaken from the natural surface at a location near to the north-east end of the Giant open pit. Refer to Figure 1 for a location diagram.

The diamond drilling is being undertaken from a single parent hole (KTDD187_D) from which navigational drilling is being used to complete an additional 11 daughter holes (KTDD187_W**). Thus, there are 12 drill hole intersections through the target zone in total. Overall the drilling is designed to provide a 30m by 30m pattern of intersections through the Central and East Kavanagh Cu-Au mineralisation. Figure 2 shows a cross section of all the drill holes with respect to the location of the Giant Open Pit.

Collar co-ordinates of the parent hole and of the downhole position of the daughter holes are provided in Table 1.

Table 1 – Collars of all drill holes

Hole_ID	East	North	Elevation	Wedge Depth (m)	Core length (m)	EOH depth
KTDD187_P	318483	6115141	1187.722	0	543.5	543.4
KTDD187_W1	318407.2	6115101	946.658	256.7	355.9	612.6
KTDD187_W2	318415.1	6115105	960.902	240.2	309.61	549.81
KTDD187_W3	318401.1	6115098	935.315	270.6	305.4	576
KTDD187_W4	318410.7	6115103	952.248	250.4	256.73	507.13
KTDD187_W5	318371.5	6115091	901.097	316	190.7	506.7
KTDD187_W6	318432.2	6115113	1002.752	196	293.6	489.6
KTDD187_W7	318403	6115105	939.888	265.5	245.1	510.6
KTDD187_W8	318423.3	6115112	979.4	223.6	296	519.6
KTDD187_W9	318398.3	6115106	931.122	277.2	221.4	498.6
KTDD187_W10	318432.2	6115113	1002.825	197	244.6	441.6
KTDD187_W11	318407	6115105	946.917	257.2	259.4	516.6

Note that the elevations are ASL plus 1000m.

The diamond drilling is very successfully intersecting the ore zones, with the use of navi-drilling to intersect the Cu-Au mineralisation within 10m of target. Drilling rates are up to 140m of NQ2 per day, 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 future underground assessments.

Various samples will also be collected for metallurgical assessment, in particular to assess the possibility of improving the gold recoveries.

Figure 1 – Location of Diamond Drilling



Figure 2 – Location of drill holes in section view

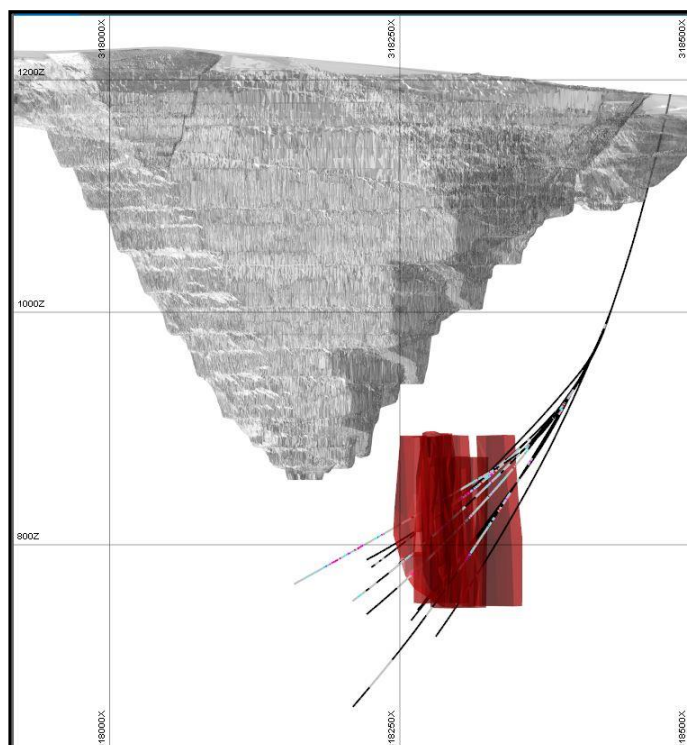


Figure 3 provides an example of the Cu-Au mineralisation in KTDD187-W2. The vein chalcopyrite-pyrrhotite is hosted in a garnet andalusite biotite schist. Note the excellent core recovery.

Figure 3 – Cu-Au mineralisation in KTDD187-W2



The list of all drill hole intersections is shown in Table 2, for intersections with a minimum of 5m at a 0.6% Cu cut off grade. Hole KTDD187_W4 is not shown in Table 2 as it intersected 4.87m at 1.7% Cu, 0.31 g/t Au, 4.9 g/t Ag from 438.13m downhole at a 0.6% Cu cut-off grade.

Table 2 – List of drill hole intersections

Hole Name	Length Downhole (m)	Depth Downhole From (m)	Cu (pct)	Au (g/t)	Ag (g/t)
KTDD187_P	6	429	0.80	0.04	2.0
KTDD187_W1	14.55	442.45	1.88	0.08	4.4
KTDD187_W2	16.37	434.73	3.00	0.21	7.8
KTDD187_W3	20	421	2.14	0.26	6.8
KTDD187_W3	9	507	1.58	0.14	3.9
KTDD187_W3	16	529	1.15	0.08	2.8
KTDD187_W5	6	371	1.30	0.14	4.4
KTDD187_W5	20.15	393.25	1.52	0.10	4.1
KTDD187_W5	14	420	2.44	0.32	6.7
KTDD187_W6	22.5	372	2.46	0.11	6.9
KTDD187_W7	10.3	390.7	2.71	0.27	8.1
KTDD187_W7	9.5	424.5	2.14	0.61	9.4
KTDD187_W8	10	346	1.39	0.20	7.7
KTDD187_W8	14.5	389	0.93	0.09	4.2
KTDD187_W8	7.45	461	1.87	0.53	5.6
KTDD187_W9	11.6	319	1.17	0.10	1.8
KTDD187_W10	18	367	2.34	0.16	7.8
KTDD187_W11	6.1	382	1.66	0.10	4.3

The current drill hole results are consistent with the previous HGO drilling². Previous intersections through this north-eastern Cu-Au mineralisation below the pit shell at the 0.6% Cu cut-off grade have previously been included in various recent ASX releases (9 May 2019) and include:

KTDD027 65m @ 1.6% Cu, 0.19 g/t Au, 4.5 g/t Ag from 344m downhole
 KTDD029 34m @ 1.9% Cu, 0.23 g/t Au, 7.1 g/t Ag from 279m downhole
 KTDD071 13m @ 2.7% Cu, 0.67 g/t Au, 11.5 g/t Ag from 479m downhole
 KTDD148 10m @ 2.3% Cu, 0.14 g/t Au, 5.6 g/t Ag from 280m downhole
 KTDD149 16m @ 2.5% Cu, 0.14 g/t Au, 7.0 g/t Ag from 291m downhole

² Reported to ASX on 23-11-2004, 14-12-2006, 25-06-2007, 24-07-2008, 1-12-2008, 13-08-2013

Figure 5 is a longitudinal section along the Kavanagh lodes showing the historic Hillgrove diamond drill holes (KTDD**), all the 2019 diamond drill holes (note that these holes are all prefixed by "KTDD187_") and the Giant open pit blast hole data.

Figure 6 shows a cross section through the drilled area, as an example of the down dip continuity of the Kavanagh lodes. There are no drill holes, historic or recent, north of this cross section.

It is important to note that the past and the 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.

Figure 5 – Longitudinal section showing all drill hole intersections

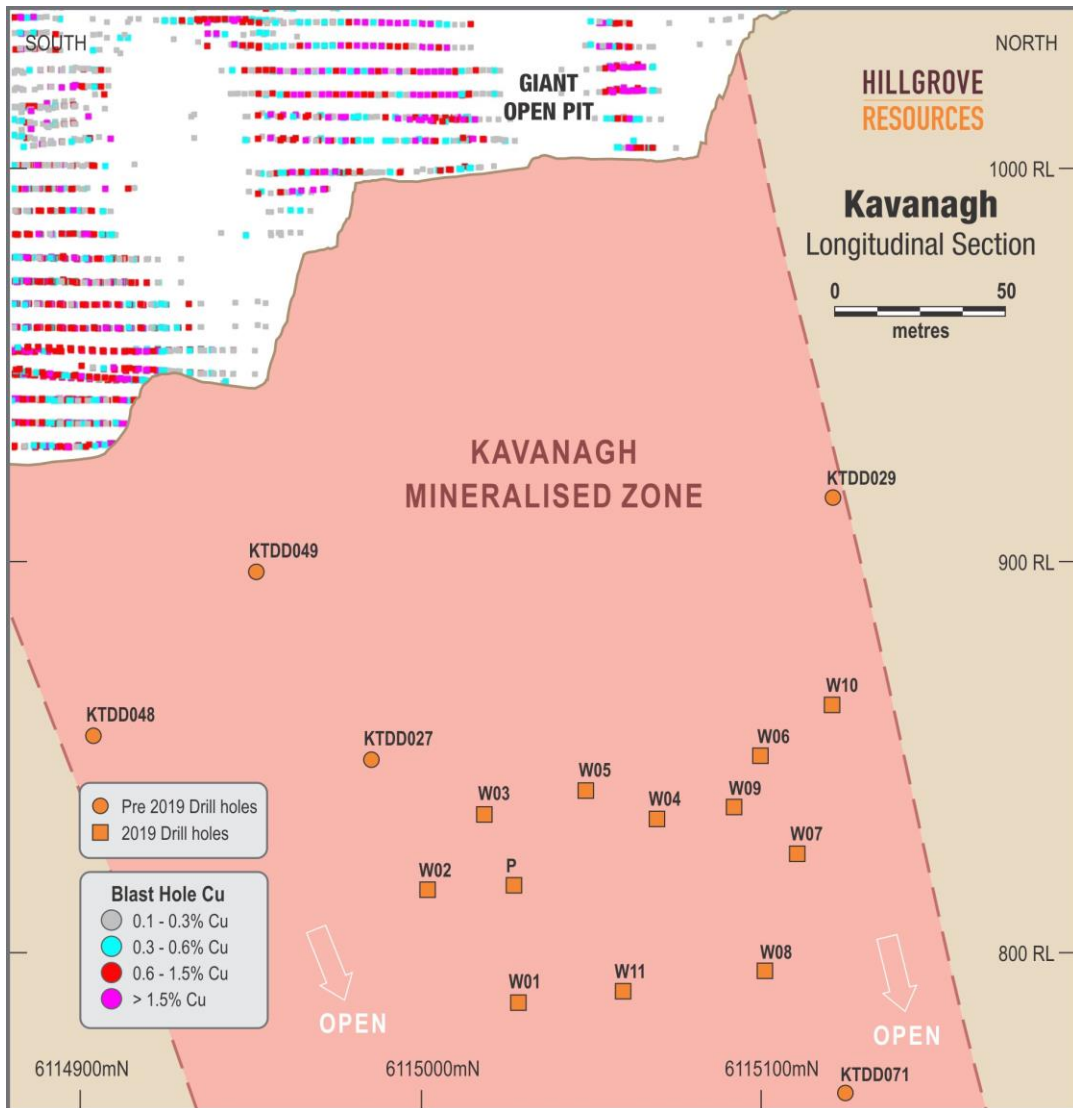
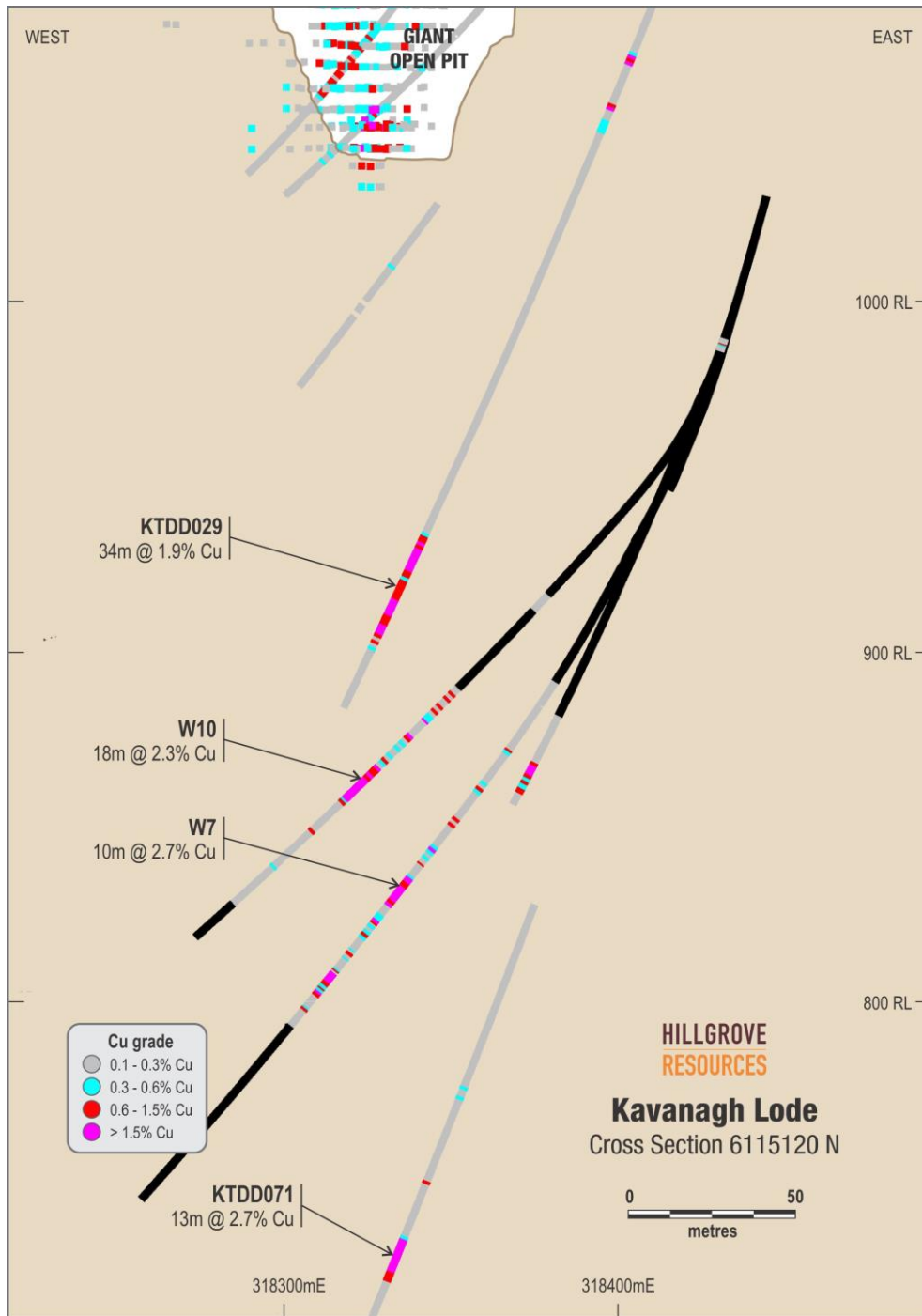


Figure 6 – Cross section at 6115120 N



Summary

The diamond drilling of the northeast Central and East Kavanagh Cu-Au mineralisation has proceeded according to plan and budget. Drill results are currently consistent with previous drilling in the vicinity and are expected to enable a Mineral Resource Estimate to be undertaken at the earliest opportunity in the December quarter of 2019.

APPENDIX B – JORC Table 1

Section 1 Sampling Techniques and Data

Criteria	Commentary
<i>Sampling techniques</i>	<ul style="list-style-type: none"> The 2019 Diamond Drill Hole (DDH) sampling at Kanmantoo was conducted as per the Hillgrove Resources procedures and QAQC protocols. From 1.0m to 0.23m samples determined by geology and through visibly mineralised zones were collected from half drill core, with the drill core sawn in half with a diamond core saw. Samples were prepared by ALS Adelaide with each sample being wholly pulverised to >85% passing <75µm
<i>Drilling techniques</i>	<ul style="list-style-type: none"> All drilling undertaken by external drilling contractor. RC drilling to 24m as a precollar. Thence HQ drilling with chrome barrel to 195.7m downhole as a parent hole for all subsequent daughter holes. NQ2 drilling for the initial parent drill hole (KTDD187_P) and also NQ2 for all daughter holes to end of hole (KTDD187-W*).
<i>Drill sample recovery</i>	<ul style="list-style-type: none"> 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 >98%. There is no correlation between sample recovery and copper grades in this DDH drill program.
<i>Logging</i>	<ul style="list-style-type: none"> 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. High quality photographs of all drill core before being sampled were taken under controlled light at the HGO core yard at Kanmantoo. All drill core is stored at Hillgrove's Kanmantoo core yard facility. All geological logging is recorded into Excel spread sheet templates and visually validated before being imported into the Hillgrove drill hole database. Additional validation is conducted automatically on import. In addition a structural log is recorded utilising the "base of core" orientation mark collected during diamond drilling. A geotechnical log is also recorded.
<i>Sub-sampling techniques and sample preparation</i>	<ul style="list-style-type: none"> 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 form 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 200gram sub-split a 2gram aliquot was scooped and weighed by ALS for 4-acid digestion. Hillgrove have detailed sampling and QAQC procedures in place to ensure sample collection is carried out to maximise representivity of

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"> • 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. • Gold is assayed by 30g Fire Assay <ul style="list-style-type: none"> • The QAQC of sample preparation and analysis processes were via the following samples: <ul style="list-style-type: none"> ○ 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. ○ HGO prepared blanks are inserted at a rate of one in every 20 samples. ○ Laboratory inserted QAQC samples were inserted with a minimum of two standards and one blank for every batch of 40 samples. • 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. • 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.
<p><i>Verification of sampling and assaying</i></p>	<ul style="list-style-type: none"> • 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.
<p><i>Location of data points</i></p>	<ul style="list-style-type: none"> • The map projection of Map Grid of Australia 1994 - Zone 54, (MGA94-54) was used for all work undertaken for this drilling. • 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 30m intervals. All holes were repeat surveyed for verification.
<p><i>Data spacing and distribution</i></p>	<ul style="list-style-type: none"> • See Figures 2 and 5 in the body of the text for drill hole locations.

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Criteria	Commentary
<i>Orientation of data in relation to geological structure</i>	<ul style="list-style-type: none"> • 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, • Dominant mineralisation trends as measured from in-pit mapping are strike 015deg and dip -75deg to east.
<i>Sample security</i>	<ul style="list-style-type: none"> • 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. • 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. • 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 • 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.
<i>Audits or reviews</i>	<ul style="list-style-type: none"> • 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.

Section 2 Reporting of Exploration Results

Criteria	Commentary
<i>Mineral tenement and land tenure status</i>	<ul style="list-style-type: none"> 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). HGO owns the land covered by the Mining Lease.
<i>Exploration done by other parties</i>	<ul style="list-style-type: none"> 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 previous Kanmantoo drilling was reported on 13 August 2013.
<i>Geology</i>	<ul style="list-style-type: none"> 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.
<i>Drill hole Information</i>	<ul style="list-style-type: none"> Drill collars, surveys, intercepts are reported in the body of this release.
<i>Data aggregation methods</i>	<ul style="list-style-type: none"> Intercepts tabulated in the body of the report are amalgamated over a minimum down hole length of 5m > 0.6% Cu with a maximum of 2m internal dilution < 0.6% Cu. No assays were cut before amalgamating for the intercept calculation. No metal equivalent values have been reported.
<i>Mineralisation widths and intercept lengths</i>	<ul style="list-style-type: none"> Table of downhole mineralised intercepts is reported in the body of this release.
<i>Diagrams</i>	<ul style="list-style-type: none"> Diagrams that are relevant to this release have been included in the body of the release.
<i>Balanced reporting</i>	<ul style="list-style-type: none"> All drill holes have been reported.
<i>Other exploration data</i>	<ul style="list-style-type: none"> 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 3.09t/m³ as used by the mine site for the past 8 years is still a reasonable representation of bulk density for all mineralisation.
<i>Further work</i>	<ul style="list-style-type: none"> Geological interpretation of the geology and assays to estimate a resource suitable for underground evaluation studies.