

7 December 2020

## UPDATED KANMANTOO UNDERGROUND MINERAL RESOURCE ESTIMATES

Hillgrove Resources Limited (ASX:HGO, the “Company”) advises that new Mineral Resource Estimates have been prepared for the Nugent and West Kavanagh mineralised zones at the Kanmantoo Copper Mine in accordance with The JORC Code 2012 Edition. In addition, the Mineral Resource for the Kavanagh area, previously reported on 30 October 2019, has also been updated with new drill results. These new Resource estimates and Resource updates include the results of the 2020 diamond drilling programme reported on 3 September 2020.

Highlights include:

- A 110% increase in the total estimated Cu metal in the Resources below the open pits within 12 months.
- The copper and gold grades of the resource estimates continue to support the Company’s investigations of the economic viability for an underground operation at Kanmantoo.
- the resource estimates only cover a portion of the Nugent, and the West and Central Kavanagh areas and there is considerable opportunity to increase the resources with further drilling on these and adjacent mineralised lodes.
- The resource estimates are all constrained by the extent of the drilling and not by the geology, in both the along strike and dip directions.

Table 1 summarises the Kanmantoo Mineral Resource Estimate (“MRE”) for the Nugent, and West and Kavanagh underground areas below the Nugent and Giant open pits, respectively, at 0.8% Cu cut-off grade.

**Table 1 Mineral Resource Estimate for Kanmantoo underground area**

Mine	JORC 2012 Classification	Tonnage (kt)	Cu (%)	Au (g/t)	Ag (g/t)	Cu Metal (kt)
Kavanagh	Indicated	583	1.97	0.24	6.0	11.5
	Inferred	560	1.7	0.2	5	9
	<b>Sub-Total</b>	<b>1,143</b>	<b>1.83</b>	<b>0.24</b>	<b>5.6</b>	<b>20.9</b>
West Kavanagh	Indicated	105	1.42	0.06	2.0	1.5
	Inferred	300	1.1	0.06	2.0	3
	<b>Sub-Total</b>	<b>406</b>	<b>1.18</b>	<b>0.06</b>	<b>2.0</b>	<b>4.8</b>
Nugent	Indicated	202	1.40	0.47	3.2	2.8
	Inferred	457	1.3	0.7	2.7	6
	<b>Sub-Total</b>	<b>659</b>	<b>1.32</b>	<b>0.61</b>	<b>2.8</b>	<b>8.7</b>
<b>Totals</b>	<b>Indicated</b>	<b>890</b>	<b>1.77</b>	<b>0.27</b>	<b>4.9</b>	<b>15.8</b>
	<b>Inferred</b>	<b>1,318</b>	<b>1.4</b>	<b>0.4</b>	<b>3.5</b>	<b>19</b>
	<b>Total</b>	<b>2,208</b>	<b>1.56</b>	<b>0.32</b>	<b>4.1</b>	<b>34.4</b>

Note: Copper Cut Off Grade is 0.80% Cu. Due to appropriate rounding, numbers may not sum.

**Mineral Resource Estimate (“MRE”)**

Figure 1 shows the general location of the different orebodies as mined in the open pit, with the red and yellow dots showing the extent of the plus 1% Cu blast hole copper grades as mined. The three areas subjected to the 2019 and 2020 drilling programs are the down dip extensions of the Nugent deposit, the West Kavanagh deposit, and the combined Kavanagh – East Kavanagh deposit (herein referred to as the Kavanagh deposit). The Spitfire, Emily Star, Paringa Cu-Au deposits have not been drilled at depth in this program.

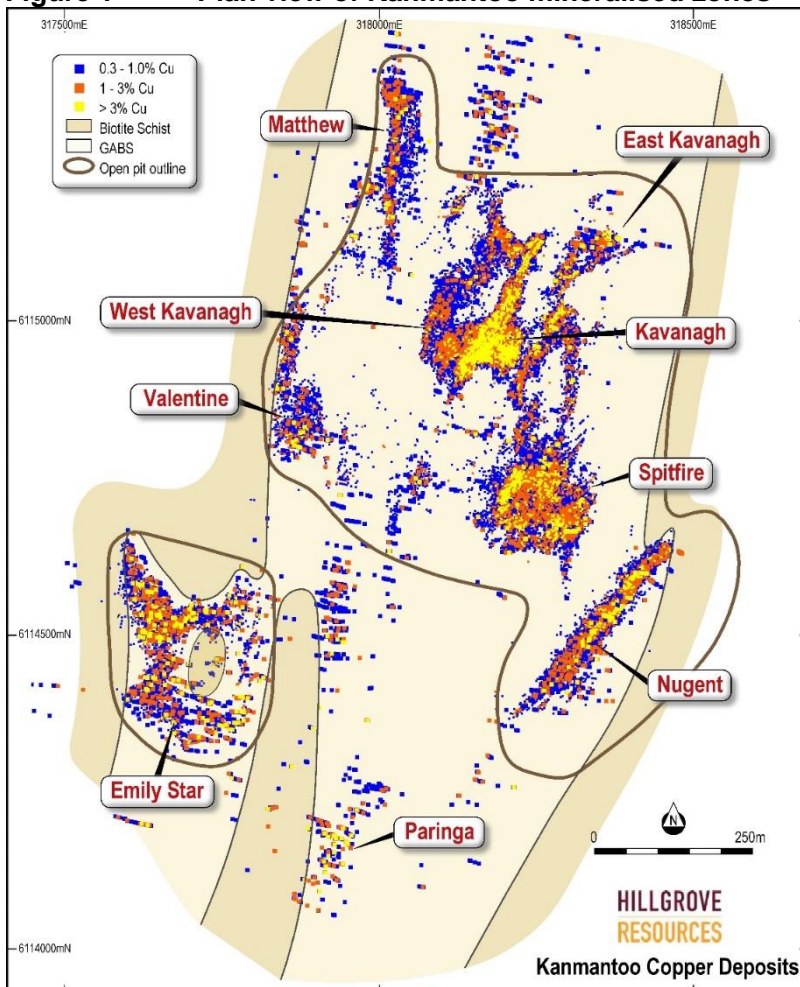
The underground Mineral Resource Estimates for Nugent, West Kavanagh and Kavanagh are limited to the 2019 (reported 10th October 2019) and 2020 (reported 3<sup>rd</sup> September 2020) diamond drilling results and adjacent diamond and RC drill results drilled by the Company in the period 2004-2008 in the Giant and Nugent pit areas. Figure 2 shows the relative locations of the areas of the Company’s 2019 and 2020 MRE’s.

The block models of the three mineralised zones have estimated Cu, Au and Ag grades below the open pits from the diamond and RC drill data. Grade control data have not been used in the estimation of the spatial continuity or grade estimates. The grade control data have been used to assist the spatial locations of the margins of the wireframes.

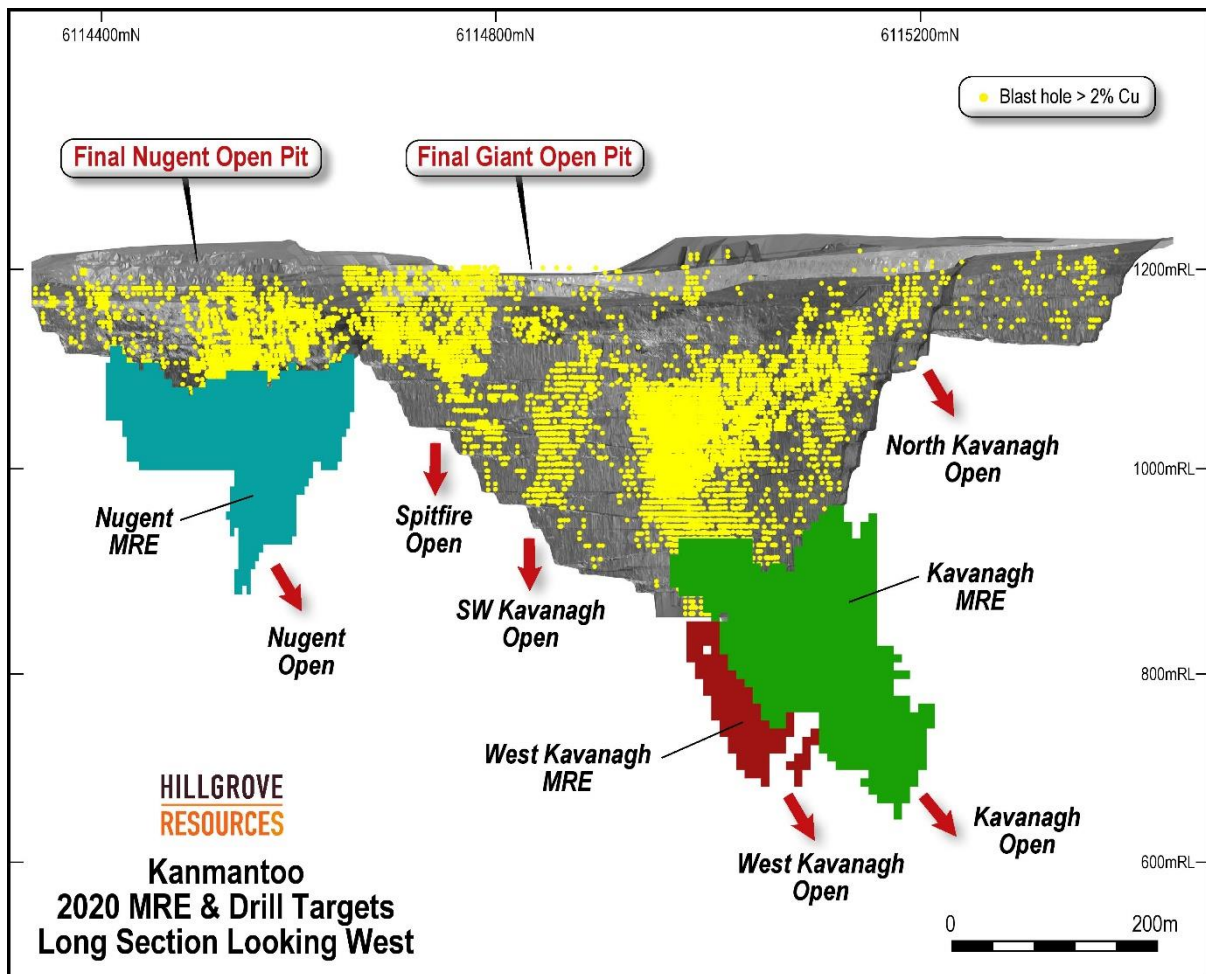
There is no reconciliation of the block models, as these deposits have never been mined underground.

See Appendix 1 for the JORC compliant Table 1 for a description of the sampling, assaying and resource estimation processes.

**Figure 1 Plan view of Kanmantoo mineralised zones**



**Figure 2 Sectional view looking west of 2019-2020 MREs**



### Nugent MRE

At Nugent, a single wireframe has been interpreted from the base of the open pit to a maximum depth of 180m below the pit – although varying in accordance with the actual drill coverage as shown in Figure 3. The wireframe is interpreted from the 1m composited drill hole data where there is a minimum of 3m > 0.8% Cu.

Variography of Cu, Au, Ag mineralisation has been modelled and an Ordinary Kriging algorithm applied to the wireframed data. The search strategy is a weighted ellipse with Indicated Resource blocks being based on a 6m (across-strike) by 30m (down-dip) by 30m (along-strike) ellipse oriented at -75 deg to 135 deg (dip/dip-direction).

Three estimation passes were used, with each pass providing an increase to the search strategy from 6m x 30m x 30m (east, north, elevation) to a maximum of 60m x 60m x 12m. Blocks of 2m (east) by 4m (north) by 8m (elev) are coded as Indicated where a block is estimated with the smallest search ellipse and with more than 8 composites, from a minimum of 4 octants. Blocks are classified Inferred if they are estimated with the largest search strategy and 4 composites within a minimum of 2 octants. The Indicated blocks are then further reviewed spatially and where only supported by a single drill hole are re-coded as Inferred. Figure 3 shows the resultant classification.

All the mineralisation is in fresh rock and bulk densities have been collected to assign an average bulk density of 2.9 t/m<sup>3</sup> to all blocks.

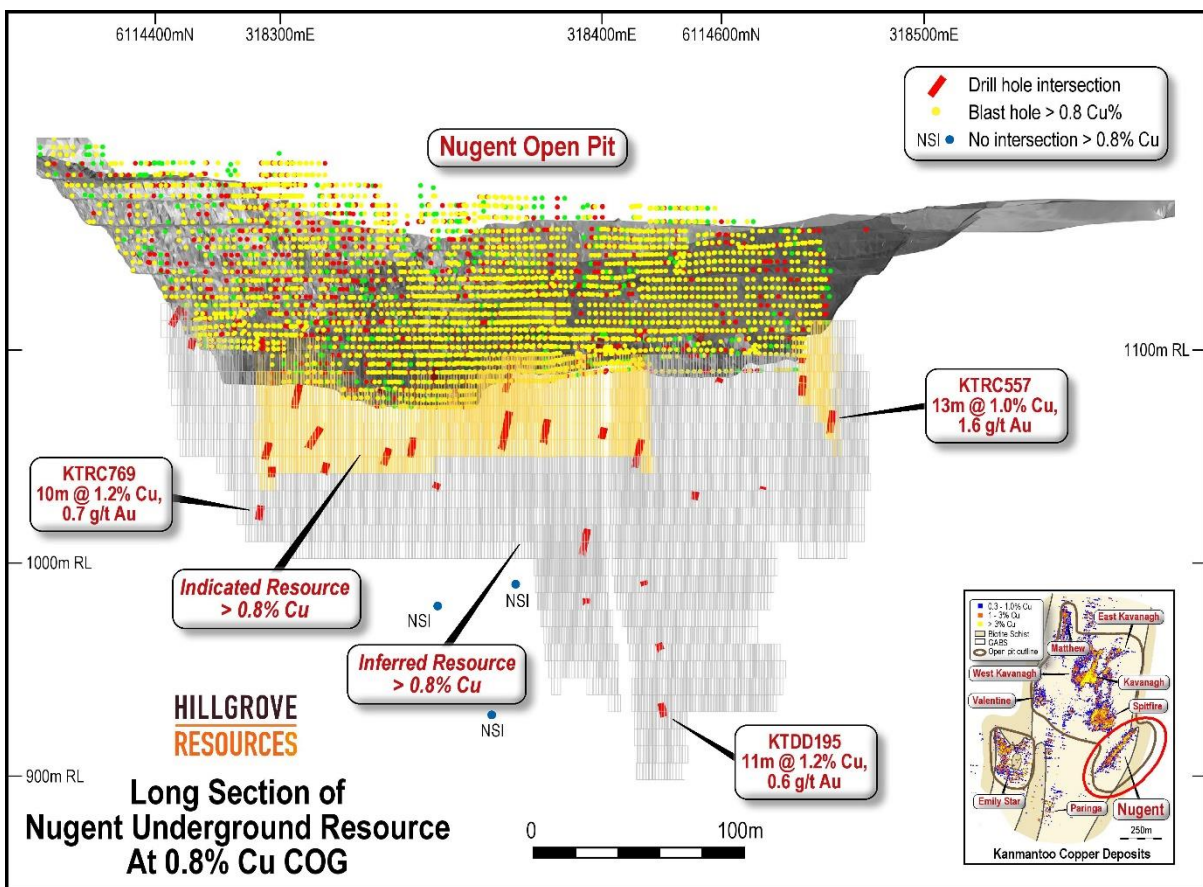
All estimated blocks within the wireframe are reported. There is no additional cut off grade (COG) applied for reporting.

**Table 2 Mineral Resource Estimate for Nugent underground area**

Mine	JORC 2012 Classification	Tonnage (kt)	Cu (%)	Au (g/t)	Ag (g/t)	Cu Metal (kt)
Nugent UG	Indicated	202	1.40	0.47	3.2	2.8
	Inferred	457	1.3	0.7	2.7	6
	<b>Total</b>	<b>659</b>	<b>1.32</b>	<b>0.61</b>	<b>2.8</b>	<b>8.7</b>

(note: due to appropriate rounding, cumulative numbers may not agree)

**Figure 3 Sectional view looking north-west of Nugent drilling and MRE**



**Kavanagh MRE**

Four geologic entities within the Kavanagh area have been wireframed at a 0.8% Cu COG. The two dominant zones have previously been termed the Central Kavanagh and East Kavanagh lodes and have been mined in the Giant open pit from surface to over 250m depth. In addition, the KTDD27 and the KTDD149 mineralised zones have been interpreted and are also included in the combined Kavanagh MRE. All four zones are collectively grouped and referred to as the “Kavanagh” deposit.

Ordinary Kriging has been used to estimate the Cu, Au and Ag grades of each resource block of 4m (east) by 8m (north) by 8m (elevation) within the interpreted domain wireframes. Any



mineralisation outside of the four mineralised domains has been excluded from the estimate.

Three estimation passes were used, with each pass providing an increase to the search strategy from 6m x 30m x 30m x 8m (east, strike, down-dip) to a maximum of 12m x 60m x 60m. The search ellipsoid is oriented at -70 deg to 015 deg (dip/dip-direction) which is consistent with the structural logging of the dominant S2 fabric. Blocks are coded as Indicated where estimated with more than 8 composites, from a minimum of 4 octants. Blocks are classified Inferred if they are estimated with the largest search strategy and 4 composites within a minimum of 2 octants. The Indicated blocks are then further reviewed spatially and where only supported by a single drill hole are re-coded as Inferred.

All areas within this resource estimate are totally within fresh rock and bulk density of 3.1 t/m<sup>3</sup> applied to all blocks.

All estimated blocks within the 0.8% Cu COG wireframe are reported. There is no additional COG applied for reporting. The resultant Kavanagh Mineral Resource Estimate is reported in Table 3.

**Table 3 Mineral Resource Estimate for Kavanagh underground area**

Mine	JORC 2012 Classification	Tonnage (kt)	Cu (%)	Au (g/t)	Ag (g/t)	Cu Metal (kt)
Kavanagh UG	Indicated	583	1.97	0.24	6.0	11.5
	Inferred	560	1.7	0.2	5	9
	<b>Total</b>	<b>1,143</b>	<b>1.83</b>	<b>0.24</b>	<b>5.6</b>	<b>20.9</b>

(note: due to appropriate rounding, cumulative numbers may not agree)

### West Kavanagh MRE

One geologic entity within the West Kavanagh area below the Giant Open Pit has been wireframed at a 0.8% Cu COG. The West Kavanagh lode has been mined in the Giant open pit from surface to over 350m depth and drilling has demonstrate that the lode continues beneath the open pit.

Ordinary Kriging has been used to estimate the Cu, Au and Ag grades of each resource block of 4m (east) by 8m (north) by 8m (elevation) within the interpreted domain wireframes. Any mineralisation outside of the mineralised domain has been excluded from the estimate.

Three estimation passes were used, with each pass providing an increase to the search strategy from 6m x 30m x 30m (east, strike, down-dip) to a maximum of 12m x 60m x 60m. The search ellipsoid is oriented at -70 deg to 015 deg (dip/dip-direction) which is consistent with the structural logging of the dominant S2 fabric. Indicated were coded where a block was estimated with more than 8 composites, from a minimum of 4 octants. Blocks are coded as Indicated where estimated with more than 8 composites, from a minimum of 4 octants. The Indicated blocks are then further reviewed spatially and where only supported by a single drill hole are re-coded as Inferred.

All areas within this resource estimate are totally within fresh rock and bulk density of 3.1 t/m<sup>3</sup> applied to all blocks.

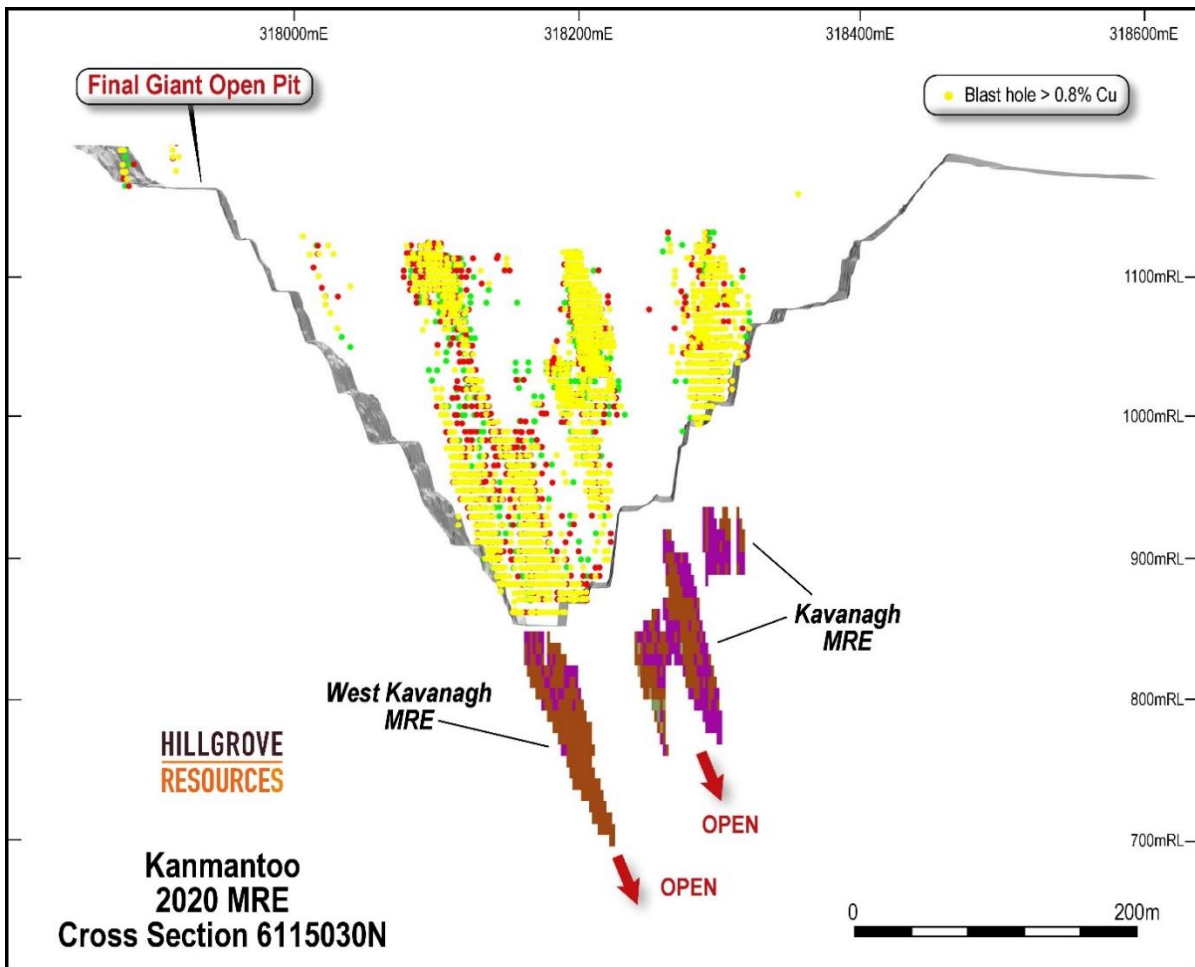
All estimated blocks within the 0.8% Cu COG wireframe are reported. There is no additional COG applied for reporting. The resultant West Kavanagh Mineral Resource Estimate is reported in Table 4, and Figure 4 shows the relative location of the West Kavanagh MRE to the Kavanagh MRE.

**Table 4 Mineral Resource Estimate for West Kavanagh underground area**

Mine	JORC 2012 Classification	Tonnage (kt)	Cu (%)	Au (g/t)	Ag (g/t)	Cu Metal (kt)
West Kavanagh UG	Indicated	105	1.42	0.06	2.0	1.5
	Inferred	300	1.1	0.06	2	3
	<b>Total</b>	<b>406</b>	<b>1.18</b>	<b>0.06</b>	<b>2.0</b>	<b>4.8</b>

(note: due to appropriate rounding, cumulative numbers may not agree)

**Figure 4 Cross section through the West Kavanagh and Kavanagh MRE's**



**Future Activities**

A further drilling program is being planned to commence in 2021 to continue to convert Inferred Resources to Indicated Resources and to drill the down-dip extension of the known mineral deposits. Engineering optimization and metallurgical studies to enhance the gold recovery continue to be progressed.

**ABOUT HILLGROVE**

Hillgrove is an Australian mining company listed on the Australian Securities Exchange (ASX: HGO) focused on the operation of the Kanmantoo Copper Mine in 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 2020 Mineral Resource Estimate for the Nugent, West Kavanagh and Kavanagh underground area 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.

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## APPENDIX A – JORC Table 1

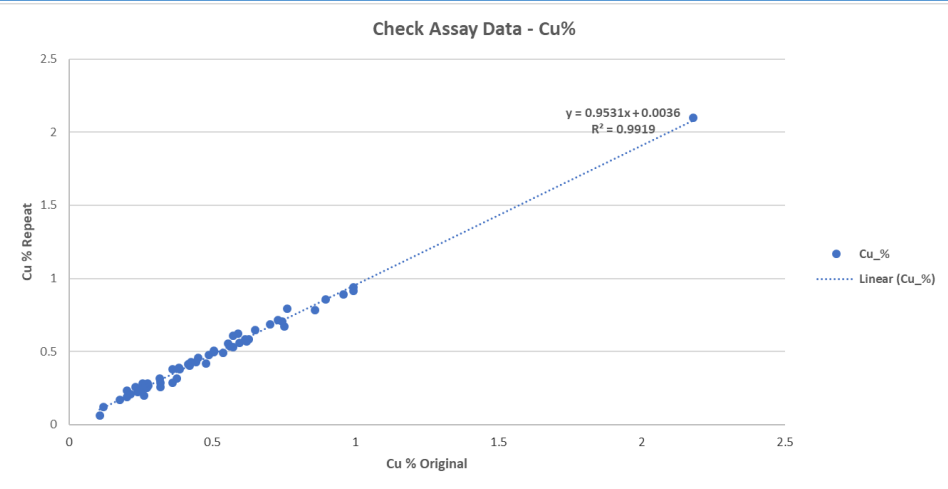
### Section 1 Sampling Techniques and Data

Criteria	Commentary
<i>Sampling techniques</i>	<ul style="list-style-type: none"> <li>• Diamond drill hole (DD) and RC drill hole samples collected by Hillgrove Resources personnel have been used for the geological interpretation and estimation. No historic pre-2004 samples or grade control samples have been used in this mineral resource estimate.</li> <li>• Drill hole sampling was conducted as per the Hillgrove Resources procedures and QAQC protocols.</li> <li>• Core samples were sawn in half using a diamond core saw. In addition, ½ core from KTDD027 was sawn into quarter and re-assayed as a QA of the previous diamond drillhole results before being utilised in this resource estimate. All core sampling was undertaken at 1m intervals or to geological boundaries as determined by the supervising geologist. Half core samples were sent for assay and the remaining core kept in core trays for future reference.</li> <li>• RC samples were collected via a cyclone mounted on the RC drill rig into bulker plastic bags. These weighed around 40kgs.</li> <li>• The cyclone collected material was split through a 3-tier riffle splitter in the field every 1m interval to approx. 5 kgs and these despatched to the assay lab.</li> <li>• The remaining ~35kgs was re-bagged and stored at site pending further QA/QC work.</li> </ul>
<i>Drilling techniques</i>	<ul style="list-style-type: none"> <li>• All drilling was undertaken by external drilling contractors.</li> <li>• Core holes used a combination of RC and HQ Diamond for the pre-collar and NQ2 through all the mineralised zones (including as wedges)</li> <li>• RC drill holes were drilled with a 5¼ inch reverse circulation, face sampling hammer</li> <li>• All drilling was dry</li> </ul>
<i>Drill sample recovery</i>	<ul style="list-style-type: none"> <li>• Diamond core recovery is recorded by Hillgrove Field Technicians during metre marking and orientation of all holes by comparing the length of drill hole advance to the recovered core metres. Results demonstrate good recoveries with an average recovery rate of &gt;98%. There is no correlation between sample recovery and copper grades.</li> <li>• RC drilling sample recovery was not measured but recorded qualitatively at the drill rig. As all drilling was dry, and visually 99% of the bags were the same weight, RC sample recovery is presumed to be consistent and excellent.</li> </ul>
<i>Logging</i>	<ul style="list-style-type: none"> <li>• All samples are 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>• In addition, a structural log is recorded for the drill core utilising the “base of core” orientation mark collected during diamond drilling</li> <li>• 99% of all 2019 and 2020 diamond holes have been geotechnically logged.</li> <li>• All diamond core trays were photographed before sampling and these photographs are stored on the Hillgrove server.</li> <li>• All RC samples were field sieved and a sub-sample of ~ 10g split for storage into plastic clip-sealed chip trays as a record of the geology.</li> <li>• All drill core and RC chip trays are stored at Hillgrove’s Kanmantoo core yard facility.</li> <li>• All geological logging is recorded into Excel spread sheet templates and visually validated before being imported into the Hillgrove Datashed drillhole database. Additional validation is conducted automatically on import.</li> </ul>



Criteria	Commentary
<i>Sub-sampling techniques and sample preparation</i>	<ul style="list-style-type: none"> <li>The core was sawn in half and the half core was despatched to ALS for each sample interval and the entire sample was then crushed and 1kg riffle split from the crushed mass and the 1kg sample then pulverised. A sub-split of 200 grams was then spilt by ALS and retained and the reject pulverised material returned to Hillgrove. From the 200 gram sub-spilt and 2 gram aliquot was scooped and weighed by ALS for 4-acid digestion.</li> <li>For the RC samples, the assay lab crushed the entire 5 kg sample and then split 2 kg for bowl pulverising to 80% passing 75um. A sub-split of 200 grams was then spilt by ALS and retained and the reject pulverised material returned to Hillgrove. From the 200 gram sub-spilt and 2 gram aliquot was scooped and weighed by ALS for 4-acid digestion.</li> <li>Hillgrove have detailed sampling and QAQC procedures in place to ensure sample collection is carried out to maximise representivity of the samples and minimise contamination.</li> </ul>
<i>Quality of assay data and laboratory tests</i>	<ul style="list-style-type: none"> <li>Pre 2016, all samples were submitted to Genalysis for analysis. Gold was determined by fire assay with flame AAS (FA50) and copper analysed via a mixed acid digest (method AT) with determination by Optical Emission Spectrometry (OES). If the copper result was greater than 1%, the analysis was repeated using a slightly modified mixed acid digestion technique (method AX).</li> <li>Post 2016 samples were submitted to ALS Perth for assaying by four acid digest with ICP-AES analysis (ALS code ME-MS61) and gold was analysed via fire assay and Atomic Absorption Spectroscopy (AAS).</li> </ul> <div style="display: flex; justify-content: space-around; align-items: flex-start;"> <div style="text-align: center;"> <p>Kavanagh Standard 58P - Cu</p> </div> <div style="text-align: center;"> <p>Nugent Standard 58P - Cu</p> </div> </div> <ul style="list-style-type: none"> <li>The QAQC of sample preparation and analysis processes were via the following samples:             <ul style="list-style-type: none"> <li>Certified reference materials (CRMS) from OREAS were inserted into the sample sequence at a frequency of one in 20. Standards of &gt; 1.0% Cu were used to reflect the copper grade closer to the expected grade of any subsequent UG operation.</li> <li>Blanks inserted at a rate of one in every 20 samples, and specifically inserted in areas of high sulphides.</li> <li>Laboratory QAQC samples were inserted with a minimum of two standards and one blank for every batch of 40 samples.</li> </ul> </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, 10% of all samples submitted for analysis are QAQC samples.</li> <li>Results from all returned QAQC samples provide reasonable confidence as to the accuracy of the assay results used in the estimation. Field duplicates show a good correlation with original sample results and in general most CRM results fall within the expected ranges.</li> <li>Repeats of the coarse crush rejects was also undertaken. This shows excellent correlation with the original assay results as shown below.</li> </ul>

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Criteria	Commentary
	
<p><i>Verification of sampling and assaying</i></p>	<ul style="list-style-type: none"> <li>• Umpire laboratory checks were undertaken during 2008 and 2011 with no significant issues identified.</li> <li>• There have been no twinned holes drilled for the Kanmantoo Copper Mineral Resource.</li> <li>• Primary sample data is captured in the field into Excel templates and stored on the Hillgrove server. The Excel templates were then imported into the SQL database using data entry procedures and database import tools. Data was visually checked by the Geologist prior to import and additional validation was carried out by the database upon import.</li> <li>• 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 all work undertaken for this Mineral Resource.</li> <li>• The relative level (RL) has been calculated as RL+1000m to ensure no negative RL values within the dataset.</li> <li>• All drillhole collars surveyed using a Trimble survey station. The accuracy of this instrument is 10mm in the horizontal plane and 20mm in the vertical. All pick-ups were reported in MGA94-54 coordinate system.</li> <li>• Downhole surveys were determined using a Champ Gyro tool from Axis Mining Technology at a maximum of 12m intervals.</li> <li>• The Champ GYRO™ accuracy is specified at +/- 0.75° (latitude dependent) for azimuth and +/- 0.15° for inclination. It has an operating range of -20° to -90° and +20° to +90° and can operate in temperatures between -10°C to + 70°C. All of these operating specifications are within that of the drilling program.)</li> <li>• The azimuth data recorded by the Champ GYRO™ as True North and as such no data conversions were required.</li> <li>• To monitor the accuracy of the down hole surveys two holes were checked by completing multi-shot surveys on retreat. These surveys were aligned with the downhole surveys collected when drilling and as such no further multi shot check surveys were required.</li> </ul>
<p><i>Data spacing and distribution</i></p>	<ul style="list-style-type: none"> <li>• Drilling was completed throughout the deposit on a variable section spacing of between 15 m to 40m and an on-section down-dip spacing of between 30 m and 50m.</li> <li>• The variable drill spacing both along strike and on-section was considered during resource classification; mineralisation estimated on broader spaced</li> </ul>

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Criteria	Commentary
	<p>drilling was given a lower confidence classification than mineralisation estimated using tighter spaced drilling.</p> <ul style="list-style-type: none"> <li>All samples were composited to 1m downhole lengths from the collar of the hole prior to geostatistical analysis and Mineral Resource estimation.</li> </ul>
<i>Orientation of data in relation to geological structure</i>	<ul style="list-style-type: none"> <li>The majority of holes are angled drillholes, dipping between -29° and -45° deg towards 250-280 deg (true). This is approximately normal to the observed strike of the mineralisation from in-pit mapping.</li> <li>At Nugent, the drill hoes were oriented at approx. 315deg, to be normal to the direction of the Nugent mineralisation.</li> <li>Dominant mineralisation trends as measured from in-pit Kavanagh mapping are strike 015deg and dip -75 to east.</li> <li>Dominant mineralisation trends as measured from in-pit Nugent mapping are strike 045deg and dip -75 to south-east</li> </ul>
<i>Sample security</i>	<ul style="list-style-type: none"> <li>A Hillgrove employee is present for the collection of the core trays from the DDH rig and is responsible for collecting and organising the samples for assay. Hillgrove has a detailed sample collection/submission procedure in place to endure 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 core and RC samples is by dedicated road transport to the Adelaide ALS 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 generated by the Field Technician.</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>Core logging and sampling methods were reviewed by Runge in 2008 and were considered to be of a very high standard (report: Mineral Resource Estimate Kanmantoo Copper Deposit South Australia, Feb 2008).</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 Copper Deposit is situated 55kms south-east of Adelaide on Mining Lease (ML) 6345 and is owned 100% by Hillgrove Resources Limited (HGO).</li> <li>The Mining Lease overlies freehold land also held by Hillgrove Resources.</li> <li>There are no Native Title interests, nor are there any historical or environmental issues considered material to this Mineral Resource.</li> </ul>
<i>Exploration done by other parties</i>	<ul style="list-style-type: none"> <li>The Kanmantoo Copper Deposit has a long history of exploration and mining dating back to the mid-19th century.</li> <li>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 mining in 1968. The open pit closed in 1976.</li> <li>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.</li> <li>Open pit mining and processing by Hillgrove commenced in 2011 and concluded in April 2020</li> <li>All exploration data used in this resource estimate has been collected by Hillgrove staff.</li> </ul>
<i>Geology</i>	<ul style="list-style-type: none"> <li>Mineralisation occurs as a complex system of structurally controlled veins, with mineralisation typically forming pipe-like bodies and lenses of chalcopyrite, pyrrhotite, <math>\pm</math>pyrite, <math>\pm</math>magnetite within a quartz + biotite + andalusite <math>\pm</math> garnet <math>\pm</math> 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.</li> </ul>
<i>Drill hole Information</i>	<ul style="list-style-type: none"> <li>No exploration results have been reported in this release, therefore this section is not material to this report.</li> </ul>
<i>Data aggregation methods</i>	<ul style="list-style-type: none"> <li>No weighting average techniques have been reported in this release. No grade cutting before length weighted 1m compositing.</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>No exploration results have been reported in this release, therefore this section is not material to this report. See the ASX releases of 10 October 2019 and 3<sup>rd</sup> September 2020.</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>No exploration results have been reported in this release, therefore this section is not material to this report.</li> </ul>
<i>Other exploration data</i>	<ul style="list-style-type: none"> <li>No exploration results have been reported in this release, therefore this section is not material to this report.</li> </ul>
<i>Further work</i>	<ul style="list-style-type: none"> <li>No exploration results have been reported in this release, therefore this section is not material to this report.</li> </ul>

## Section 3 Estimation and Reporting of Mineral Resources

Criteria	Commentary
<i>Database integrity</i>	<ul style="list-style-type: none"> <li>Hillgrove Resources utilise an SQL database system (Datashed) which is managed by the Database Controller assisted by the Senior Geologist.</li> <li>Primary data is collected electronically into excel templates with lookup tables and fixed formatting to aid validation. Primary data is stored on Hillgrove's server and then imported into the SQL database using detailed data entry standards and database import tools.</li> <li>Data is visually checked and validated prior to being imported into the SQL database and additional validation is performed on import via a number of embedded validation rules within the SQL database system. This automatic validation is configured through the use of library tables, triggers and stored procedures designed to ensure data integrity with respect to a number of fundamental quality essentials. Any data which violates these rules is rejected and quarantined until the errors are corrected.</li> <li>Data tables were exported from the SQL database as comma separated files (CSV's) using export tools embedded with the database.</li> </ul>
<i>Site visits</i>	<ul style="list-style-type: none"> <li>The Competent Person works at the Kanmantoo Copper mine and is involved with the recent drilling and data collection processes. The Competent Person has also viewed all of the older diamond core and all of the recent diamond core. The Competent Person has also been involved in the open pit daily grade control processes and therefore has an understanding of the spatial continuity of the mineralised ore zones in 3D.</li> </ul>
<i>Geological interpretation</i>	<ul style="list-style-type: none"> <li>Structural studies conducted by Hillgrove denote that the main controls on mineralisation are the north -south striking anastomosing shear zones and the north-east to north-north-east striking cross-shears and tension veins. This strong structural control is evident throughout the entire deposit.</li> <li>The dip of the West Kavanagh and Kavanagh mineralisation is generally steeply dipping (70° to 80°) towards the East. While the Nugent mineralisation is generally steeply dipping (70° to 80°) towards the south-east.</li> <li>Geologic domains were predominately modelled on chlorite, sulphur and copper content with a moderate influence from structural knowledge gained during mining.</li> <li>Domains were projected around 10m beyond the limit of drilling along strike and 50m downdip.</li> <li>Within the interpreted geologic domain, a 0.8% Cu domain was interpreted for the estimation. This domain was used code the 1m composites and used to code the block model for estimation.</li> <li>Six domains were interpreted. Four domains of Central Kavanagh, East Kavanagh, KTDD149 and KTDD027 are collectively termed the Kavanagh Deposit. In addition, there is the West Kavanagh and the Nugent domains. Any mineralisation intersected by the drilling, but not included in these domains is not included in the resource estimate.</li> </ul>
<i>Dimensions</i>	<ul style="list-style-type: none"> <li>The Kavanagh underground MRE has a north-south strike length of 270 metres, over a zone approx. 50m wide and over a depth of 230 metres below the Giant open pit.</li> <li>The West Kavanagh MRE extends over 130m along strike, 4m to 20m in width and extends from the base of the Giant open pit to a maximum depth extent of 160m below the Giant pit</li> <li>Nugent is over 320m in length, between 5m and 25m in width. The MRE extends from the base of the Nugent open pit to a maximum depth extent of 230m below the pit.</li> <li>All zones are open to depth.</li> </ul>



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<i>Estimation and modelling techniques</i>	<ul style="list-style-type: none"> <li>The three-dimensional mineralisation wireframes were completed using Micromine 2020.5 and Surpac 2012 version 6.3.1</li> <li>Domain interpretation updates were completed using 10m spaced sections.</li> <li>Wireframe objects for 4 domains at Kavanagh were built for the modelling method, 1 domain at West Kavanagh and 1 Domain at Nugent.</li> <li>Modelling of mineralisation was completed using copper intervals, where copper was greater than 0.8% across consecutive drillholes. Where there was not consecutive drillholes with greater than 0.8% copper these zones were excluded.</li> <li>Major geological domains were interpreted predominately on mineralisation.</li> <li>Sectional interpretations were extrapolated to approx. 50m down dip of the drill hole on the section. Along strike, mineralisation was extrapolated to 10m from the section.</li> </ul> <p><b>GRADE ESTIMATION</b></p> <ul style="list-style-type: none"> <li>Block estimation and geostatistical analysis was completed within the GS3M software package of FSSI Australia.</li> <li>Block size was defined by the strike of the orebody and the drillhole spacing. For Nugent 2m (east) x 4m (north) x 8m (elev). For Kavanagh and West Kavanagh 2m (east) x 8m (north) x 8m (elev)</li> <li>Ordinary Kriging (OK) was used to estimate copper, silver and gold grades.</li> <li>Each element within each domain was analysed for the presence of extreme high values and top cut values were applied on an element and domain basis where applicable after the 1m downhole compositing. Top cut values were determined using basic statistical analysis, assessment of log probability plots and spatial evaluation of high outliers. This equated to a 98% top-cut.</li> </ul> <table border="1"> <thead> <tr> <th></th> <th>Cu%</th> <th>Cu% Cut</th> <th>Au g/t</th> <th>Au Cut g/t</th> <th>Ag g/t</th> <th>Ag Cut g/t</th> </tr> </thead> <tbody> <tr> <td>Kavanagh</td> <td>9.61</td> <td>6</td> <td>2.41</td> <td>1.4</td> <td>38.7</td> <td>20</td> </tr> <tr> <td>West Kavanagh</td> <td>11.65</td> <td>6</td> <td>0.23</td> <td>0.23</td> <td>68.6</td> <td>20</td> </tr> <tr> <td>Nugent</td> <td>5.87</td> <td>4.3</td> <td>11.62</td> <td>3.4</td> <td>24</td> <td>10</td> </tr> </tbody> </table> <ul style="list-style-type: none"> <li>The mineralised domain boundaries were used as “hard” boundaries for interpolation.</li> <li>One metre assay composites from start of hole were used for interpolation</li> <li>The variography, conditional statistics for each domain for each metal were generated from the domained 1m composites.</li> <li>Three estimation passes were employed for all domains, each subsequent pass having an increased search size. These search parameters were determined using drill hole density and variography as a guide. <ul style="list-style-type: none"> <li>Estimation Parameters <table border="1"> <thead> <tr> <th></th> <th>East</th> <th>Strike</th> <th>Down-Dip</th> </tr> </thead> <tbody> <tr> <td>Search 1</td> <td>6m</td> <td>30m</td> <td>30m</td> </tr> <tr> <td>Search 2</td> <td>12m</td> <td>60m</td> <td>60m</td> </tr> <tr> <td>Search 3</td> <td>12m</td> <td>60m</td> <td>60m</td> </tr> </tbody> </table> </li> </ul> </li> </ul>		Cu%	Cu% Cut	Au g/t	Au Cut g/t	Ag g/t	Ag Cut g/t	Kavanagh	9.61	6	2.41	1.4	38.7	20	West Kavanagh	11.65	6	0.23	0.23	68.6	20	Nugent	5.87	4.3	11.62	3.4	24	10		East	Strike	Down-Dip	Search 1	6m	30m	30m	Search 2	12m	60m	60m	Search 3	12m	60m	60m
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Criteria	Commentary
	<ul style="list-style-type: none"> <li>• Min data - Search 1&amp;2 8</li> <li>• Min data - Search 3 4</li> <li>• Min quadrants - Search 1&amp;2 4</li> <li>• Min quadrants - Search 3 2</li> <li>• Max data 32</li> <li>• Ellipse dip/dip-direction Nugent = -75deg to 135deg; Kavanagh and West Kavanagh = -70 to 105deg</li> <li>• The model has been reviewed in both along section and in plan for consistency against the drillhole data.</li> </ul>
<i>Moisture</i>	<ul style="list-style-type: none"> <li>• Tonnages are estimated on a dry basis.</li> </ul>
<i>Cut-off parameters</i>	<ul style="list-style-type: none"> <li>• The wireframes were interpreted at a 0.8% Cu COG. All estimated blocks within the 0.8% Cu wireframe are reported.</li> </ul>
<i>Mining factors or assumptions</i>	<ul style="list-style-type: none"> <li>• All MRE's are within Mining Lease 6345 which is fully permitted and approved for underground mining and ore processing.</li> <li>• The estimated resource extends from the completed pit shells and to depth as per drilling extents. A minimum drill hole intersection of 3m downhole is used for wireframing.</li> </ul>
<i>Metallurgical factors or assumptions</i>	<ul style="list-style-type: none"> <li>• No metallurgical assumptions have been included in the resource</li> <li>• The Kanmantoo Copper Mine Processing Plant has been processing the Kanmantoo Ore for approximately 8 years with recoveries for copper of 90-94%, gold of 40 – 60% and silver of ~50%. Testwork to enhance gold recoveries is in progress.</li> </ul>
<i>Environmental factors or assumptions</i>	<ul style="list-style-type: none"> <li>• Waste dumping areas and tailing storage facilities (TSFs) are already approved and constructed within the current mining lease.</li> <li>• Both the mine and processing plant are under full regulatory approved environmental licences and permits.</li> </ul>
<i>Bulk density</i>	<ul style="list-style-type: none"> <li>• Density was measured on core samples from the 2019 + 2020 drilling using the wet immersion method on 570 NQ and NQ half core samples.</li> <li>• Historical 2004-2010 collected wax-coated Archimedes method density sample results were reviewed for this Mineral Resource. The density results for 386 half core samples (a mixture of NQ and HQ in size) were available for density calculation.</li> <li>• The density data results were divided by lithology and the datasets were investigated for outliers and/or suspect values. The mean of the relevant ore type dataset was then calculated and assigned to the model once the estimation process was complete.</li> <li>• This density was aligned with the Bulk Density values that were used during mining of the pit and reconciled against mine production and milling</li> <li>• Bulk density for Nugent is 2.90 t/m<sup>3</sup>, and Kavanagh and West Kavanagh is 3.1 t/m<sup>3</sup></li> </ul>
<i>Classification</i>	<ul style="list-style-type: none"> <li>• The Mineral Resource has been classified into the confidence categories of Indicated and Inferred according to geological confidence and reflect the Competent Person's view on the deposit. This confidence is based on the density of copper assay data, continuity of mineralisation and knowledge of the orebody gained during past mining activities. Other factors considered were the estimation pass associated with the block estimation.</li> <li>• Indicated resources have an average drillhole intercept spacing of between 20 and 40m and are not based on a single drill hole or single drill section.</li> <li>• Inferred resources have an average drillhole intercept spacing over 40m.</li> </ul>

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<i>Audits or reviews</i>	<ul style="list-style-type: none"><li>• An internal audit of the spatial continuity of the copper grades was undertaken and the estimate considered to be an appropriate estimate of the copper, gold and silver mineralisation suitable for evaluating the viability of an underground mining operation.</li></ul>
<i>Discussion of relative accuracy/confidence</i>	<ul style="list-style-type: none"><li>• The model has been reviewed in both section and plan for consistency against the drill hole data.</li><li>• There is no reconciliation of the underground Mineral Resource against Mill production as no underground mining has been undertaken.</li></ul>