

Friday, 20 October 2017

COPPER GOLD ZONE AT KANAPPA IS EXTENDED

The Board of Hillgrove Resources Limited (Hillgrove) (ASX:HGO), is pleased to announce Hillgrove has extended the zone of copper-gold mineralisation at its Kanappa exploration project, further enhancing its potential to provide a significant opportunity for company growth.

Highlights

- Hillgrove has extended the copper-gold mineralised zone at Kanappa from 3.6km to 4.8km long, confirmed with soil and rock chip sampling
- Sampling of mineralised outcrops in the extension zone, has shown up to 6.5% Cu and 0.8g/t Au (different samples)
- Previous rock chip sampling by Hillgrove has resulted in the discovery of surface outcrops of high grade copper and gold zones to 34.8% Cu and 4.0g/t Au (different samples)
- The soil geochemical sampling has identified an area with very high grade copper results up to 2,300ppm Cu in soils
- Mapping has identified in excess of 120 sites of outcropping copper and copper-gold mineralisation
- The Kanappa Project is 60kms via existing roads from the Kanmantoo processing plant

Hillgrove Resources Ltd (“HGO”) has identified several organic growth opportunities it intends to vigorously pursue during 2017-2018. The first of these growth opportunities is the depth extensions of the copper-gold orebodies currently being mined in the Kanmantoo open pit as explained in the ASX release of 25 May 2017.

The second of these growth opportunities to be pursued is the copper-gold mineralisation previously identified by HGO at its wholly owned Kanappa project¹. This release is an update of the exploration activities at the Kanappa Project.

Figure 1 shows the location of the Kanappa copper-gold exploration project, approximately 60kms by road from the Company’s Kanmantoo processing plant.

HGO has continued its soil sampling and mapping over the Kanappa Project area and has now assayed 959 soil samples by a combination of Portable XRF and 4-acid ICP-AAS assaying. Preliminary mapping and rock chip sampling (all rock chips assayed by 4-acid ICP-OES) were also undertaken across the surveyed area.

HGO has previously completed a detailed air-magnetic survey across the entire tenement area including the Kanappa copper-gold project, and in 2005 drilled a single diamond drill hole (KPDDH01) at the northern end of the geochemical anomaly (refer to the previous Kanappa ASX release for a description of the airborne magnetics and the drill hole).

¹ ASX Release “High grade copper gold results at Kanappa” released on 25/05/2017

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Figure 1 Location of the Kanappa copper-gold project

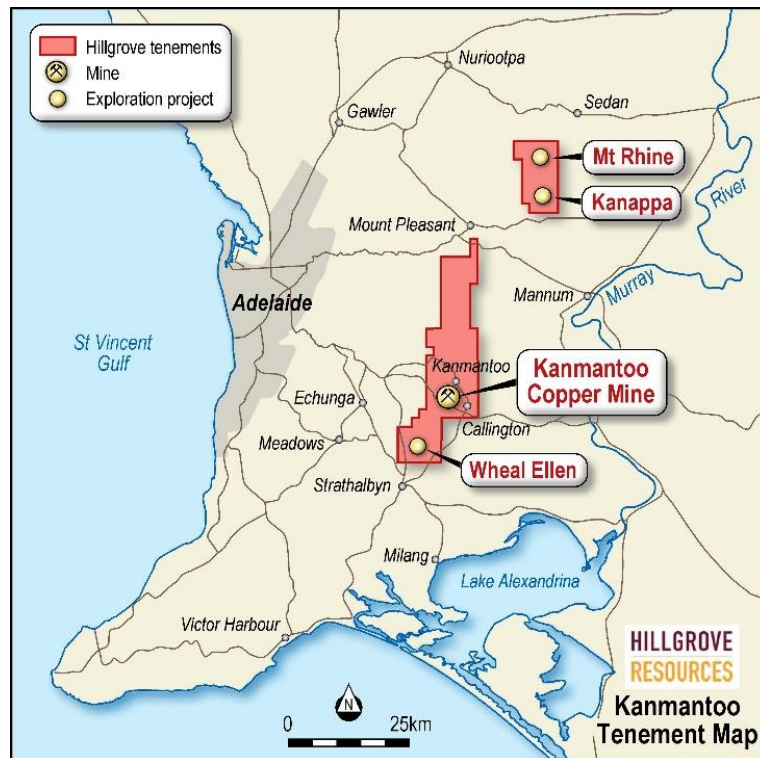


Figure 2 is a summary of the 959 soil results depicted as a gridded image of copper values, annotated with a selection of rock chip assays (the results for 93 rock chips were provided in the ASX release of May 2017, and Appendix 1 in this release provides results for an additional 14 samples from rock outcrops) and the locations of the 122 known sites of outcropping copper mineralisation.

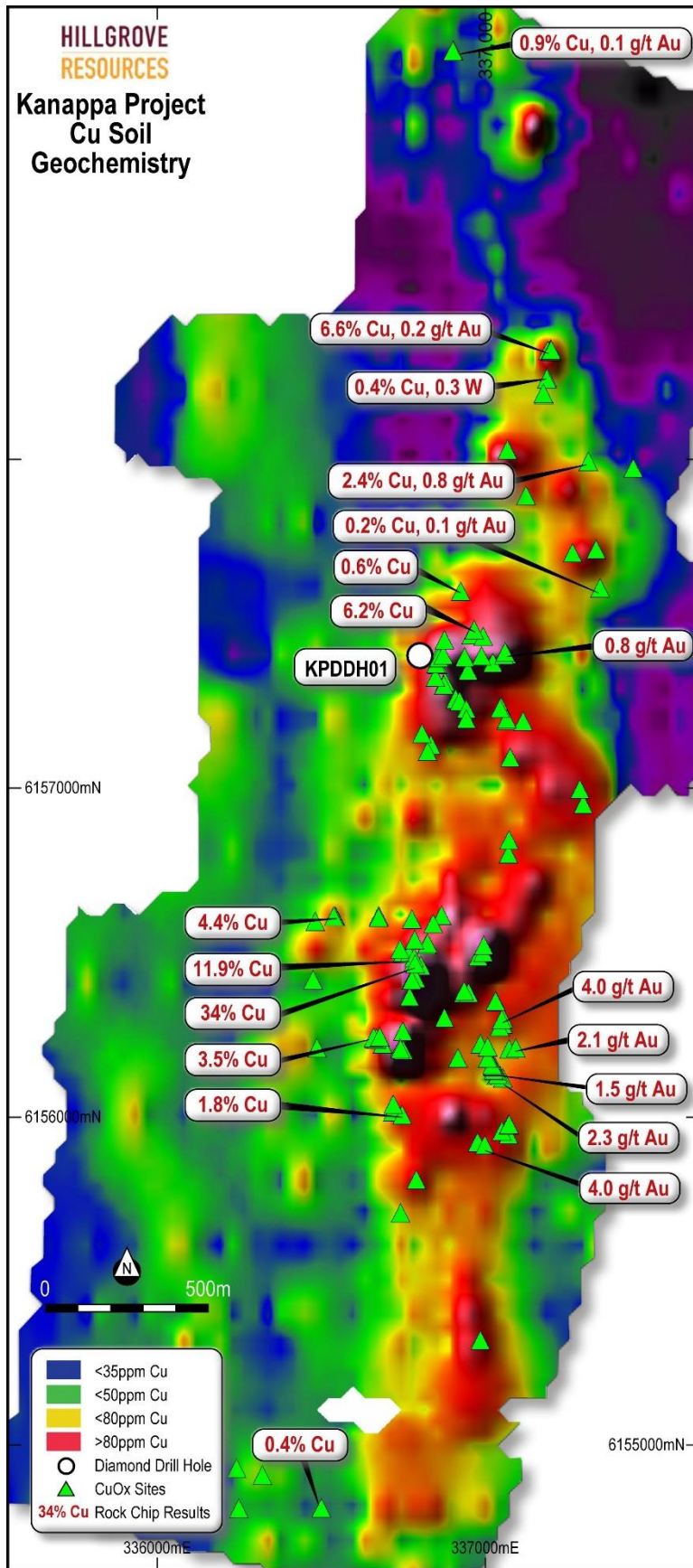
The Kanappa copper-gold exploration project is within the Kanmantoo Trough and hosted by similar geology as that at the Kanmantoo Copper-Gold Mine operated by HGO. Field mapping at Kanappa has identified several zones of high chlorite-garnet-biotite alteration (as at Kanmantoo) over widths in excess of 50m.

The entire zone of anomalous copper geochemistry is over 600 metres wide and 4.8 kilometres long. The geochemical zone is open both north and south, with copper mineralisation still outcropping at the northern and southern extremities of the gridded area as evidenced by the presence of historic workings and rock chip samples with > 0.4% Cu at the grid extents.

Rock chip sampling has confirmed the high grade tenor of the outcropping copper mineralisation with rock chips to 34.8% Cu. Field mapping has identified in excess of 120 sites of outcropping copper and copper-gold mineralisation, some of which have been previously exploited by historic mining.

The rock chip sampling has helped identify four geochemically and geologically distinct mineralised areas. To the east there is a copper-gold zone with gold values to 4g/t Au and associated with anomalous tungsten (to 0.4% W), tin, and molybdenum. The central zone is a strong copper zone with copper values to 34% Cu with anomalous silver and bismuth. The western zone is hosted by a limestone unit and is characterised by polymetallic mineralisation with copper (4.4% Cu), zinc, and local magnetite. A fourth copper zone in the most northern portion of the gridded area, has high copper (0.9% Cu) and gold (0.1g/t Au) values hosted within carbonate veined and altered gabbro.

Figure 2 Plan of the soil geochemistry results overlain with selected rock chip results



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Invested Infrastructure

The importance of the existing infrastructure at the Kanmantoo Copper Mine and in the region cannot be over-emphasised in assessing the economic materiality of this copper-gold exploration project. In particular:

- The existing copper-gold processing plant at Kanmantoo that operates at a very efficient \$7.30/tonne milled
- The risks associated with understanding copper and gold recovery and processing costs have been largely mitigated through the past 6 years of operation on similar mineralisation
- The extensive geotechnical database resulting from open pit mining for the past 6 years in similar rock types
- The potential to use the existing processing plant and tailings storage facility at Kanmantoo
- The existing bitumen public road access routes suitable for heavy haulage between the exploration site and the Kanmantoo Processing Plant

Proposed Exploration Activities

Further exploration activities are in progress to undertake a programme of electrical and magnetic geophysical surveys to define drill targets.

Hillgrove estimate that drill testing of the copper-gold exploration zone may be able to commence in the first quarter of 2018, depending on the required funding being available, and the success of the geophysical work confirming quality drill targets.

ABOUT HILLGROVE

Hillgrove is an Australian mining company listed on the Australian Securities Exchange (ASX: HGO) focused on operating its flagship Kanmantoo Copper Mine and associated regional exploration targets, located less than 55km from Adelaide in South Australia.

The Company has approximately 245 site based employees and contractors at Kanmantoo and at its small Adelaide corporate office.

Presently the Company is mining at the rate of up to 20 million tonnes per annum and has produced up to 20,000 tonnes of copper and 11,000 ozs of gold per annum. Annual export earnings are in the range of \$110 to \$170 million per annum.

With over \$60 million invested in the cutback of the Giant Pit, the Company expects to generate significant free cash-flows at very low stripping ratios in 2018-2019.

The Company's growth will come from the Kanmantoo Copper Mine operation in South Australia and exploration discoveries from its highly prospective near mine and greenfield exploration projects.

Competent Person's Statement

The information in this report that relates to 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.

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Further information on the Kanmantoo Mineral Resources and Ore Reserves is available in the Hillgrove Updated Mineral Resource and Ore Reserve Estimate released to the ASX on 18 October 2016, which is also available on the Hillgrove Resources website at www.hillgroveresources.com.au

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Appendix 1 – Table of Rock Chip Results

SAMPLE ID	MGA_Z54_East	MGA_Z54_North	Au g/t	Cu%
R401	337205	6158316	0.024	0.58
R402	337206	6158317	0.028	1.9
R403	337183	6158189	0.018	0.354
R404	336910	6159229	0.144	0.962
R405	336911	6159230	0.08	0.395
R406	337207	6158320	0.207	6.57
R407	337204	6158321	0.038	0.599
R408	337207	6158321	0.04	0.364
R411	337342	6157715	0.026	0.02
R412	337271	6157704	0.125	0.239
R413	337353	6157598	0.108	0.191
R414	337318	6157982	0.827	2.36
R415	337454	6157962	0.019	0.036
R416	337131	6157879	0.006	0.007

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APPENDIX 2 – JORC Table 1

Section 1 Sampling Techniques and Data

Criteria	Commentary
<i>Sampling techniques</i>	<ul style="list-style-type: none"> Rock chip samples (Rocks), and soil samples (Soils) collected by Hillgrove Resources personnel have been used for the geological interpretation and geochemical contouring. All sampling was conducted as per the Hillgrove Resources procedures and QAQC protocols. <p>Soils:</p> <ul style="list-style-type: none"> Portable XRF soil geochemistry: <ul style="list-style-type: none"> A Niton XL3t Gold portable XRF was used to analyse a sieved fraction of the soil regolith. Soil was collected from the B Horizon and sieved to -1mm. In May 2017 this material was then split into two lots of 10g each. Each 10g aliquot was pressed into separate cups. Each cup was analysed, each reading for a total of 120 seconds. In September 2017, only 1 split was analysed by the Niton, as the May analyses showed no benefit from analysing two splits for each soil geochemical sample site A Standard and a blank was used every 20th sample. 4-acid digest ICP-AAS: <ul style="list-style-type: none"> For soil samples collected pre-2017, a commercial assay laboratory was used to analyse a bulk soil collected from the C Horizon. The entire sample was pulverised to -75um and then a 1g aliquot digested and analysed by ICP-AAS. Around 200 soil sample sites were dual analysed by both Portable XRF and the total digest assay method and compared. The comparison was excellent, both in spatial location of the anomalies, and statistically with a Correlation Coefficient of > 0.8. <p>Rock Samples</p> <ul style="list-style-type: none"> A commercial assay laboratory was used for all rock chip results. The entire rock sample was crushed and then pulverised to -75um. A 1g aliquot weighed and digested in a 4-acid digest with an ICP-OES analysis.
<i>Drilling techniques</i>	No drilling reported in this release.
<i>Drill sample recovery</i>	No drilling reported in this release
<i>Logging</i>	<ul style="list-style-type: none"> All Rock chips were logged for lithology, alteration, and weathering by Hillgrove Geologists in accordance with Hillgrove’s Logging Procedure. All geological observations are recorded in the field using a paper-based system and then entered into Excel spread sheet templates and visually validated before being imported into the Hillgrove drill hole database. Additional validation is conducted automatically on import.
<i>Sub-sampling techniques and sample preparation</i>	<p>Rock samples</p> <ul style="list-style-type: none"> Rocks totally crushed and then total material pulverised to -75um <p>Soil Samples</p> <ul style="list-style-type: none"> Soils were prepped as described under the “Sampling Techniques”

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Criteria	Commentary
<i>Quality of assay data and laboratory tests</i>	<ul style="list-style-type: none"> All rock chip samples were submitted to commercial assay laboratories for analysis. Gold was determined by fire assay by 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). The QAQC of sample preparation and analysis processes were via the following samples: <ul style="list-style-type: none"> Certified reference materials (CRMS) inserted into the sample sequence at a frequency of one in 20. Blanks inserted at a rate of one in every 20 samples. Laboratory 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, 5% of samples submitted are blanks and 5% of samples submitted are field duplicates thus ensuring that as a minimum, 15% of all samples submitted for analysis are QAQC samples. 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.
<i>Verification of sampling and assaying</i>	<ul style="list-style-type: none"> As described under the "Sampling Techniques"
<i>Location of data points</i>	<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 these samples The survey for all soil samples, rock chip samples and for the drill hole collar co-ordinate is determined from a hand held Magellan GPS to an accuracy of +/- 5m in east and north and +/- 10m for elevation
<i>Data spacing and distribution</i>	<ul style="list-style-type: none"> The soil sampling was undertaken on a 100m by 50m grid over the area shown in Figure 2 The rock chips were collected as required by the geologist
<i>Orientation of data in relation to geological structure</i>	<ul style="list-style-type: none"> Rock chips have no orientation The soil sample grid is oriented normal to regional geological stratigraphy and structures
<i>Sample security</i>	<ul style="list-style-type: none"> Rock samples – A Hillgrove employee collects the rock chip and carries it personally to the geology office for collation and despatch to the assay lab. Soil samples are in the possession of the geologist or the field technician during collection and transport to the geology office. Thence collated for despatch to the assay laboratory, or to the XRF room at the Kanmantoo Mine Site for XRF analysis. Hillgrove has a detailed sample collection/submission procedure in place to ensure sample security. Sample transport is by dedicated road transport to the sample preparation facility in Adelaide. 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. 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"> Anomalous Soil sampling and rock chip sampling results were checked in the field by the Exploration Manager. QA/QC results also checked.

Section 2 Reporting of Exploration Results

Criteria	Commentary
<i>Mineral tenement and land tenure status</i>	<ul style="list-style-type: none"> The Kanappa copper-gold project is situated 75kms east of Adelaide on Exploration Lease (EL) 5628 and is owned 100% by Hillgrove Resources Limited (HGO). The EL overlies freehold grazing land for which HGO has executed Access Agreements with the landowners. There are no Native Title interests, nor are there any historical or environmental issues considered material to this exploration activity.
<i>Exploration done by other parties</i>	<ul style="list-style-type: none"> The Kanappa copper-gold area has a limited mining history dating back to the mid-19th century. Mining ceased around 1917. Regional stream sediment programs were undertaken by Australian Selection in 1965, Carpentaria in 1971, Australian Aquitaine in 1972 and CRA in 1981 In 1980, CRA identified a significant copper- tungsten anomaly coincident with the Kanappa copper-gold project area. Further sampling by CRA downgraded the prospect Hillgrove Resources commenced exploration sampling in 2004 and then completed a single diamond drill hole. Work at Kanappa by HGO ceased in 2005 whilst the DFS for Kanmantoo Copper Mine was completed and the Kanmantoo Mine entered into production.
<i>Geology</i>	<ul style="list-style-type: none"> Mineralisation occurs as a complex system of structurally controlled veins, with mineralisation appearing to form zones of chalcopyrite, pyrrhotite, pyrite, magnetite, malachite, azurite within a quartz + biotite + andalusite ± garnet ± chlorite schist host rock. Mapping suggest the main controls on the mineralisation are north-south striking shear zones and north-north-east/north-east striking cross-shears.
<i>Drill hole Information</i>	<ul style="list-style-type: none"> No drilling reported in this release
<i>Data aggregation methods</i>	<ul style="list-style-type: none"> Rock chip result as assayed – no aggregation. Soil sample results are contoured from the original assays.
<i>Mineralisation widths and intercept lengths</i>	<ul style="list-style-type: none"> No drilling results reported in 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 rock chips have been reported in the body of the report. All Soil samples have been contoured and presented as a contour image
<i>Other exploration data</i>	<ul style="list-style-type: none"> There is no other exploration data used
<i>Further work</i>	<ul style="list-style-type: none"> The Company is proposing to undertake further geophysical work before deciding on a drill test programme.