# HILLGROVE RESOURCES

## 

PERIOD ENDING 30 JUNE 2021



### Hillgrove Resources Limited (ASX: HGO) report for the quarter ended 30 June 2021

### SUMMARY

### **Underground Exploration and Development**

Diamond drilling continued at Kanmantoo across the Kavanagh and Spitfire Lodes. Outstanding drill intersections realised during the Quarter<sup>1</sup> include:

- 1. 170.65m @ 1.01% Cu, 0.11 g/t Au in KTDD205 from 339m downhole,
- 2. 19.53m @ 1.93% Cu, 0.36 g/t Au in KTDD198\_W4 from 463m downhole,
- 3. 19.5m @ 1.64% Cu, 0.07 g/t Au in KTDD202 from 539.5m downhole,
- 4. 20.0m @ 1.53% Cu, 0.36 g/t Au in KTDD202\_W3 from 624m downhole, and
- 5. 14.2m @ 2.16% Cu, 0.5 g/t Au in KTDD204\_W1 from 377m downhole.

The drilling results to date have affirmed:

- 1. The continuation of the mineralisation to ~500m below the open pit (previously ~200m) and still open to depth,
- 2. Expanded the lateral footprint of the mineralisation to the south by ~150m, confirming the Spitfire and South West Kavanagh zones extend at depth, and
- 3. Confirmed the tenor of the key Kavanagh Cu-Au lodes.

The drilling of the Spitfire, South West and West Kavanagh zones is continuing and the Nugent Cu-Au zone to be drilled thereafter.

### Stella and South East

The Company received \$303,800 in grants under the South Australian Government's Accelerated Discovery Initiative (ADI) to drill test the Stella conductivity anomaly and undertake geochemical analysis in the South East Delamerian<sup>2</sup>. These works will commence in the next quarter.

### MANAGING DIRECTOR'S STATEMENT

Drilling continues to expand the mineralised copper / gold footprint for the Kanmantoo Underground Project ("Underground") in the main Kavanagh lode, as well as multiple other lodes which could be mined from the same decline. The excellent drill results during the quarter, including 170m averaging over 1% Cu, further increases the scale of the potential Underground development. Drilling over the next quarter will focus on expanding the resource by following up on the successful first hole into the Spitfire and SW Kavanagh lodes which demonstrates that these high-grade lodes also continue to depth and provide an opportunity to significantly increase the mineable inventory from the Kavanagh portal and decline infrastructure for low incremental cost. This is an exciting period for Hillgrove as the Company continues to grow the mine life and annual production potential ahead of recommencement of production in 2022.

<sup>&</sup>lt;sup>1</sup> ASX releases of 3 May 2021, 6 May 2021, and 24 June 2021

<sup>&</sup>lt;sup>2</sup> ASX release 24 May 2021

### **UNDERGROUND EXPLORATION & DEVELOPMENT**

Hillgrove is developing the Kanmantoo Underground Project which comprises the depth extensions of dominant Cu-Au lodes mined in the past open pits. The Underground is fully permitted and has the opportunity to restart quickly and for low capital owing to the existing processing and tailings infrastructure which is maintained on care and maintenance for a ready restart.

The previous drilling in 2019 and 2020 resulted in a Mineral Resource Estimate (MRE) for the Kavanagh and Nugent lodes with a total estimated resource of 34.4kt of Cu metal below the open pits<sup>3</sup>. Since the MRE was released in 2020, the Company has undertaken an extensive drilling program, including 8,954 metres in this quarter, which demonstrates that these lodes extend up to 500m below the open pits and are open at depth and along strike as shown in Figure 2 and as evidenced by the results in the ASX releases of 3 May, 6 May and 24 June 2021. These results are expected to increase the size of the existing MRE.

A number of drill holes through the Kavanagh Cu-Au lodes have intersected excellent widths and Cu-Au grades as listed on the previous page. In addition to these drill results; drilling has intersected the Kavanagh Cu-Au lodes at 800 metres depth below surface (~500m below the open pit).

In addition, the Company has also successfully intersected the down-dip continuation of the Spitfire and South-West Kavanagh Cu-Au lodes. These intersections demonstrate that the Cu-Au lodes extend for an additional 150m south of the previous extents of the 2020 MRE:

- 6.15m @ 1.39% Cu, 0.15 g/t Au in KTDD206 from 320m (Spitfire), and
- 16.0m @ 1.19% Cu, 0.08 g/t Au in KTDD206 from 427m (South-West Kavanagh)

The location of the Spitfire and SW Kavanagh Cu-Au lodes is shown in Figure 2. These lodes have the potential to add significant value to the underground proposition for relatively low incremental cost as they would be able to be accessed from any mine development centred on the Kavanagh lodes. Drilling continues on these lodes.

Attached as Appendix A is a set of representative drill sections to show the progress of the drilling to date.

In the Quarter, 8,954 metres have been drilled across 25 holes and assays are still pending for some holes. There have been no safety or environmental incidents and drilling is continuing as planned.

Figure 1 shows the three drill rigs in operation at the north-eastern end of the open pit, with the image looking south-west across the Giant Pit and towards Hillgrove's copper processing facility.

<sup>&</sup>lt;sup>3</sup> ASX Release 7 December 2020





Figure 2: Drilling targets for the Kanmantoo UG project



### **EXPLORATION**

Hillgrove has a strong pipeline of exploration opportunities over more than 6,100km<sup>2</sup> of tenements.

These tenements comprise two project areas, the Near Mine area (within 10 kms of Hillgrove's processing plant) and the Regional area within the south-east Delamerian Porphyry Cu-Au province.

### **Near Mine Exploration**

The Cu-Au targets within 10 kms of the Kanmantoo processing plant includes the Stella and North West Kanmantoo geochemical and geophysical targets which were announced on 29 April 2019.

In June, the Company announced that the South Australian Government had granted the Company a grant under it's Accelerated Drilling Initiative (ADI) to drill test the Stella Cu-Au target just 500m from the Kanmantoo Mine Lease. This drilling will be undertaken in the third quarter of 2021.



#### **Regional Exploration**

The regional area comprises 5,652km<sup>2</sup> of exploration licences in the south-east of South Australia, within the Delamerian Orogen. The Delamerian Orogen is now being investigated by the Geological Survey of South Australia and MINEX-CRC for its porphyry copper-gold endowment as a consequence of the discoveries on the Stavely Belt in western Victoria, which is also within the Delamerian Orogen.

The Company was also successful in being granted funds under the South Australian Government's ADI scheme to empirically test various soil geochemical sampling/analyses techniques that have showed some great promise in early trials in the South-East. This geochemical work will proceed in the third quarter of 2021.

### HILLGROVE CORPORATE

The Company continues to be prudent with cash burn, through cost reduction initiatives. However, to maintain the processing plant for quick restart, costs are incurred for site care and maintenance, water recirculation, and regulatory obligations.

Post quarter end, at the Company's request, the NSW Government has cancelled the Comet Vale lease near Armidale NSW (ML 755), subject to the completion of minor reporting requirements. This will reduce the cash burn along with the uncertainty surrounding future rehabilitation obligations.

### **MINERAL RESOURCES**

### Mineral Resources for Kanmantoo as at 31 December 2020

On 7 December 2020, the Company released an updated Mineral Resource Estimate for the first of its underground opportunities on a portion of the deeper Kavanagh mineralisation beneath the Giant Open Pit. The Mineral Resource Estimate does not include any Ore Reserve and is estimated at a cut-off grade and geologic continuity suitable for eventual underground studies for its exploitation.

The Table below summarises the Mineral Resource Estimate ("MRE") for the Kavanagh, West Kavanagh and Nugent underground areas at 0.8% Cu cut-off grade.

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

MINERAL RESOURCE ESTIMATE FOR THE KANMANTOO UNDERGROUND AREA

The information in this report that relates to the Mineral Resources on the Kavanagh underground project were initially reported by the Company to ASX on 7 December 2020. The information in this report that relates to the Exploration and Drilling Results on the Kanmantoo project were initially reported by the Company to ASX on 10 October 2019, 3 September 2020, 3 May 2021, 6 May 2021 and 24 June 2021. The Company confirms that it is not aware of any new information or data that materially affects the information included in the original market announcement and that all material assumptions and technical parameters underpinning the Exploration Results and the Resource Estimate in the relevant market announcement continue to apply and have not materially changed. The Company confirms that the form and context in which the Competent Person's findings are presented have not been materially modified from the original market announcements.

### **Competent Person's Statement for Mineral Resource Estimates**

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.

CORPORATE INFORMATION				
Issued Share Capital at 30 June 2021				
Ordinary shares	936,969,381			
Unlisted Options	14,000,000			
Employee Performance Rights	37,241,841			
Share price activity for the Quarter				
High	0.100			
Low	0.040			
Last (30 June 2021)	0.055			

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### **APPENDIX A – REPRESENTATIVE DRILL SECTIONS**

The following figures are representative cross sections through the Kavanagh, Spitfire and Nugent mineralisation.

Figure 3 is a plan view of all Hillgrove drilling since 2004 in the Kavanagh and Nugent area. The figure shows the location of the seven cross-sections that follow in this Appendix. Three cross-sections through the northern end of the Kavanagh lode system showing the down dip extensions realised by the 2021 drilling, one oblique cross-section along the trace of KTDD205 that intersected 170.65m @ 1.01% Cu, 0.1 g/t Au<sup>4</sup>, one cross section through the South West Kavanagh – Spitfire down dip intersects, and two cross sections through the Nugent lode system. The first Nugent section shows the down-dip drill intercepts of 2020 and the second Nugent section shows the target area yet to be drilled.



### Figure 3: Plan view of the 7 drill cross-sections to follow

<sup>&</sup>lt;sup>4</sup> ASX release 6 May 2020

### Kavanagh – Oblique cross-section along KTDD205 (170.65m @ 1.01% Cu, 0.1 g/t Au)

Drilling in 2019 (KTDD187\* drill holes<sup>5</sup>) had intersected significant Kavanagh mineralisation below the open pit compared to the very narrow zones of Cu-Au mined in the final benches of the open pit. Diamond drill hole KTDD205 was drilled in 2021 to infill a gap in drill coverage of the Kavanagh Cu-Au zones between the 2019 drill holes and the open pit. Drill hole KTDD205 intersected all the mineralised zones and in the position of the drill hole, every zone has developed into wide widths of strong mineralisation such that the whole zone from East to West Kavanagh is semi-continuously mineralised.

Shown on this figure and all following figures is an outline of the "Alteration" zones. This outline is defined by strong garnet-chlorite-biotite alteration and highly elevated Fe sulphides.

Note that the cross section appears to show a thinning of the mineralised zones with depth, which is an artefact of the northerly plunge of the mineralisation and the oblique strike of the cross-section relative to the strike of the Cu-Au zones.



Figure 4: Oblique cross-section along KTDD205 (170.65m @ 1.01% Cu, 0.1 g/t Au)

<sup>&</sup>lt;sup>5</sup> ASX release 10 October 2019

### Kavanagh – Cross-section at Kavanagh at 6115110N

This is one of two cross-sections drilled to 800m below surface and intersected 4.55m @ 1.5% Cu, 0.2 g/t Au<sup>6</sup> within an alteration zone that is over 20m in length. This hole clearly shows that the structurally controlled Cu-Au mineralisation continues to depth and is open.

The section also shows that there is significant mineralisation intersected by 2021 drill holes that extend the mineralised zones in width and up and down dip beyond the range of the current 2020 Mineral Resource Estimate. Intercepts include<sup>7</sup>;

- 20m @ 1.5% Cu, 0.4 g/t Au
- 22m @ 1.6% Cu, 0.16 g/t Au
- 11m @ 1.6% Cu
- 2.15m @ 2.6% Cu, 0.98 g/t Au



### Figure 5: Cross-section at Kavanagh at 6115110N (north of Figure 4)

<sup>&</sup>lt;sup>6</sup> ASX release 24 June 2021

<sup>&</sup>lt;sup>7</sup> All intercepts from ASX releases 10 Oct 2019, 3 Sept 2020, 3 May 2021, 6 May 2021, 24 June 2021

### Kavanagh – Cross section on Kavanagh at 6115140N

This cross section is 30m north of Figure 5 and is the second section demonstrating that the Cu-Au mineralisation extends to 800m below surface in KTDD203\_W5 with 3m @ 1.1% Cu, 5g/t Au.

Again the 2021 drilling has demonstrated extensions in width and extent of the mineralisation to that estimated in 2020 model.





### Kavanagh – Cross section on Kavanagh at 6115170N

This cross section is at the northern extent of the drilling to date and demonstrates that the Cu-Au mineralisation continues along strike and below the open pit.

There is significant opportunity for further resource growth between the drill intercepts and the open pit and further to the north. Access to surface drilling positions is a limitation to intersecting this northern mineralisation which is likely to be confirmed from underground drilling once mining commences.



### Figure 7: Cross section on Kavanagh at 6115170N

### SW and Spitfire: Cross section showing depth extensions of both lodes

This section shows the drill results from the 2021 drilling<sup>8</sup> below the open pit targeting the depth extensions of the Spitfire and SW lodes. This hole is the first hole into the Spitfire and SW Kavanagh lodes and demonstrates that these high-grade lodes continue to depth. These holes would be accessed from the same decline as the Kavanagh lodes as indicated in Figure 9 and as such offer an opportunity to significantly increase the mineable inventory for low incremental cost.

Drilling continues on these lodes.



### Figure 8: SW and Spitfire cross section at 6114830N

Figure 9: Plan view of indicative Kavanagh decline relative to lodes



<sup>&</sup>lt;sup>8</sup> ASX release 24 June 2021

### Nugent: Cross section showing depth extension at 6114625N

This section shows the drill results from the 2020 drilling<sup>9</sup> below the Nugent open pit. The drill intercepts prove that the Cu-Au mineralisation at Nugent continues and is open to depth. The strong gold grades are a feature of the Nugent mineralisation and metallurgical test work to improve gold recoveries is in progress.

The Nugent zone is a future drill target to extend mineralisation extents.



50m

Figure 10: Nugent cross section at 6114565N

**Alteration Outlines** 

0.4 - 0.8

0.1 - 0.4

= 11

**Deepest Drilling** 

Looking NorthEast +/-10m

<sup>&</sup>lt;sup>9</sup> ASX release 3 September 2020

### Nugent: Cross section at 6114625N

This Nugent cross-section is ~60 metres north of Figure 10 and has not been drilled at depth since open pit mining concluded in 2015. This part of the Nugent Cu-Au mineralisation has a high gold tenor and is a key target for future drilling.



