

## Drilling Underway Testing Copper-Gold Targets at Havilah Project in Lachlan Fold Belt Copper-Gold Province, NSW

- A maiden diamond drilling program of up to 2,500m is now underway, testing a series of porphyry/volcanics hosted copper-gold (Cu-Au) targets at the Company's Havilah Project south of Mudgee in the world-class Lachlan Fold Belt copper-gold province of NSW (see Figure 1).
- The drilling will test several large, sub-surface, copper-gold sulphide targets associated with strong Induced Polarisation (IP) geophysical anomalies<sup>1</sup> (see Figure 1).
- The drilling will also test under outcropping copper mineralisation (malachite and the copper sulphide, chalcopyrite) associated with extensive soil anomalies and several >1% copper rock-chip results<sup>2,3</sup>. These anomalies may represent copper 'leakage' from the sub-surface IP sulphide targets which are being tested in the current program (see 3-d inversion model, Figure 2 and cross section, Figure 3).



*Image 1: Diamond drill-hole HVD001, commencing testing Hazelbrook North mineralisation & IP target*

- The Havilah Project is located within the Ordovician Volcanic-Macquarie Arc of the Lachlan Fold Belt, which is host to several major copper-gold projects such as Cadia-Ridgeway<sup>4</sup> and North Parkes<sup>5</sup>.

Golden Deeps Ltd (ASX: GED) is pleased to announce that the Company has **commenced a diamond drilling program which is testing a series of porphyry/volcanics hosted copper-gold targets at its 100% owned Havilah Project in the Lachlan Fold Belt Copper-Gold Province of central NSW** (see location, Figure 1).

Five to ten holes for 1,260m to 2,500m of diamond drilling will test two types of copper-gold target zones at the Havilah Project (see Figure 1 for planned hole locations, geochemistry and geophysical targets):

- Three initial holes will test two zones of surface copper mineralisation identified at the Hazelbrook and Hazelbrook North prospects, where **large soil anomalies have been identified with rockchip values of over 1% Cu<sup>2,3</sup> associated with visible copper mineralisation** (malachite and the copper sulphide, chalcopyrite) within the Ordovician Sofala Volcanics.
- Up to seven holes will **test the strong sub-surface IP chargeability anomalies - which represent targets for copper (with gold) sulphide mineralisation within the highly prospective Sofala Volcanics**, in the contact zone of the Aaron's Pass granite (see cross section, Figure 3).

The strongest sub-surface IP chargeability-sulphide targets occur at the northern end of the survey (Figure 1) where values of over 55 millivolts per volt (mV/V) were detected against background of less than 10 mV/V. Figure 2 shows a 3-d inversion model of the IP anomalies and Figure 3 shows a schematic cross-section slice through the IP anomaly inversion models.

Another two strong IP anomalies occur to the south within the same corridor, including an anomaly that corresponds with a resistive gravity low - which could represent a porphyry intrusion related to the Aaron's Pass Granite located to the west of the prospect (see Figure 1, below).

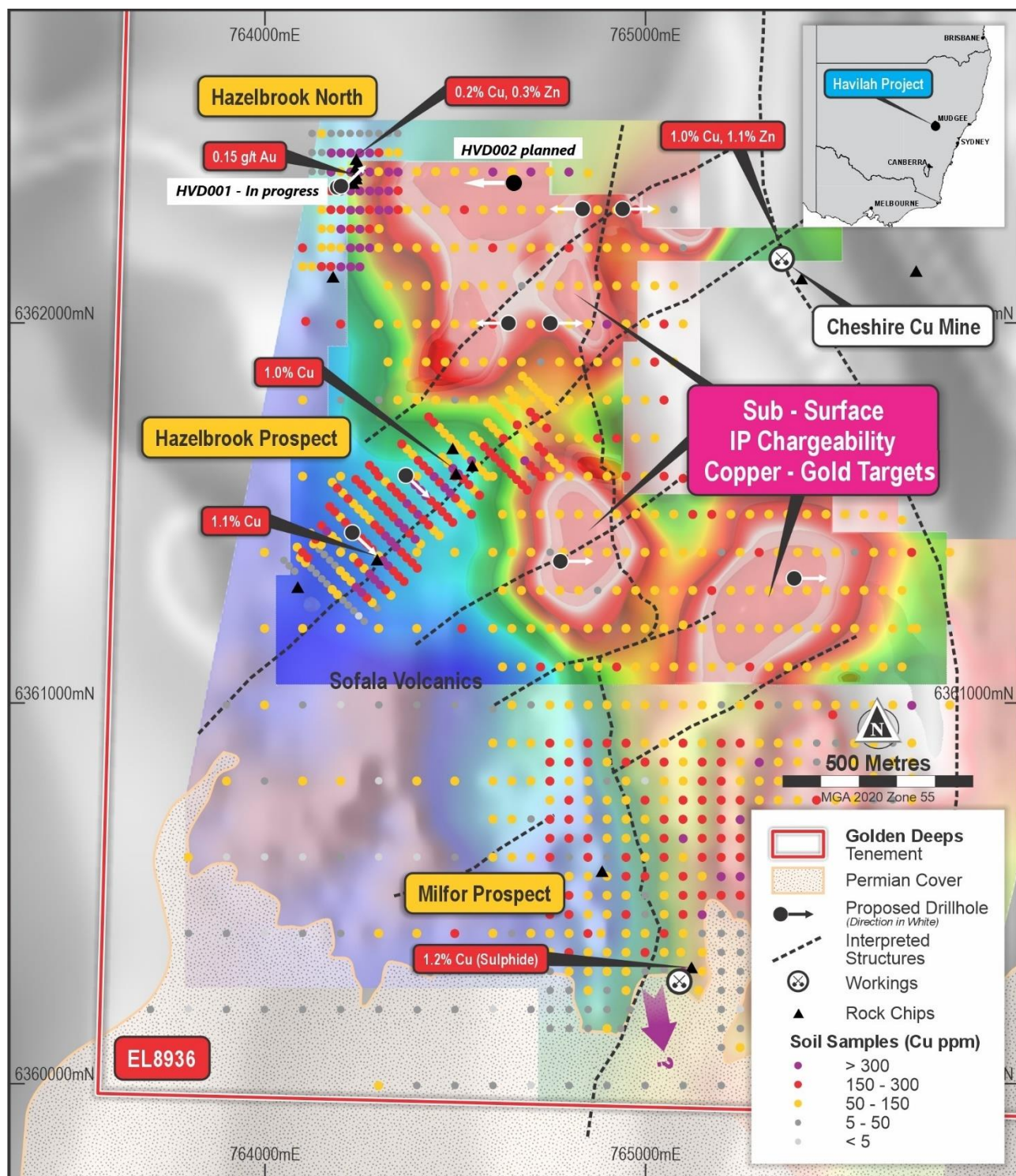


Figure 1: Hazelbrook IP copper-gold targets on gravity image with copper anomalies and proposed drilling

The northeast-trending zone of surface copper mineralisation at the Hazelbrook prospect<sup>3</sup> projects to intersect the north-south IP anomaly corridor. At this intersection point there is a gap in the IP anomaly indicating copper mineralisation has essentially “leaked” up the northeast-trending structure which links to the intrusion to the west and at depth (as indicated by gravity, magnetics and high IP resistivity - see Figure’s 2 and 3).

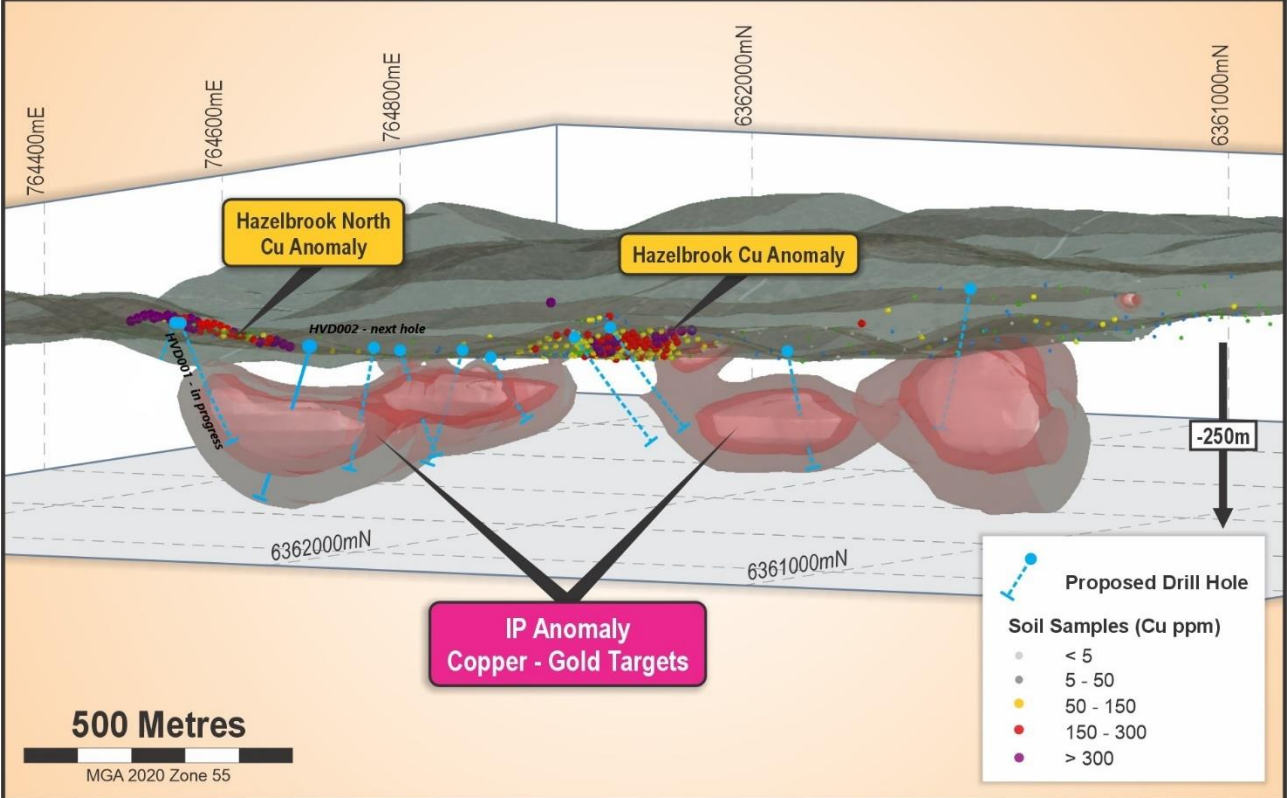


Figure 2: Havilah Project, sub-surface IP anomaly copper-sulphide targets with drilling underway and planned

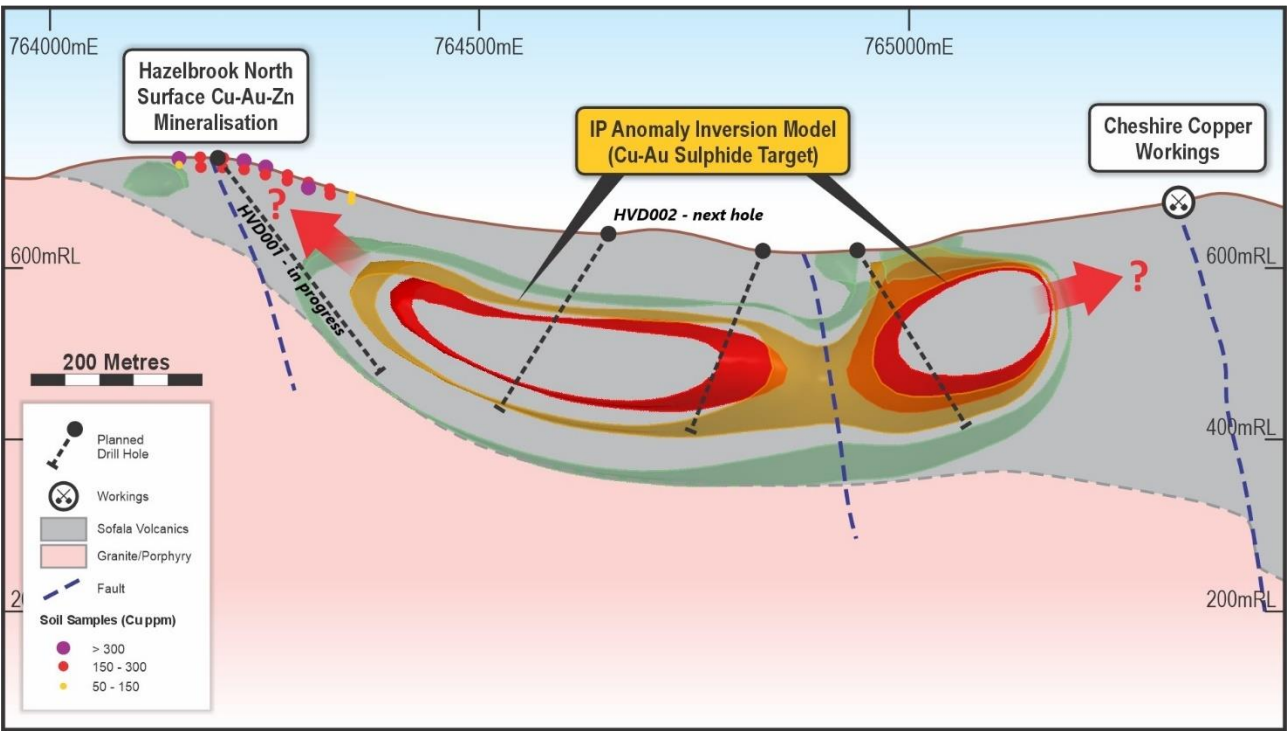
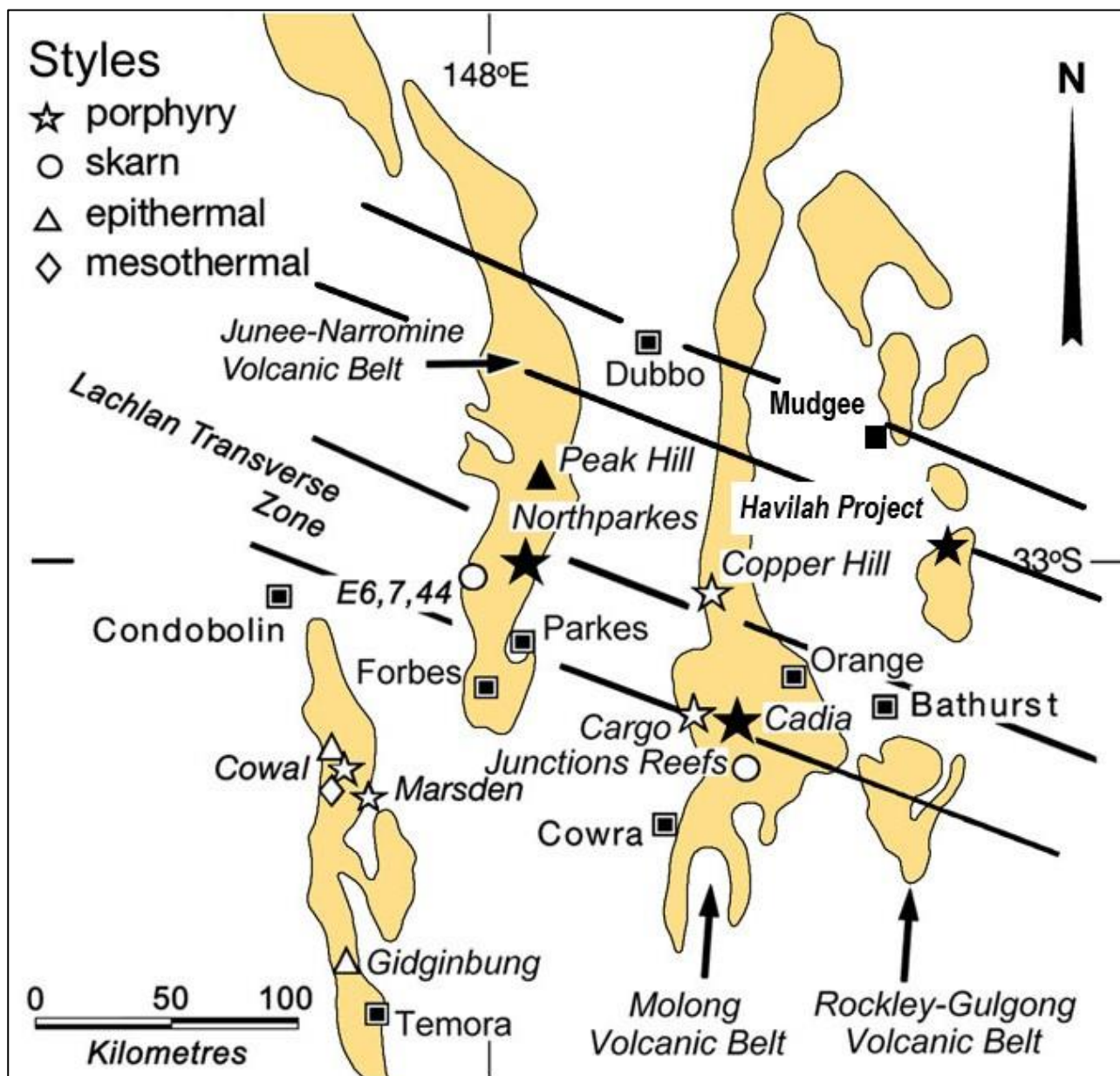


Figure 3: Havilah Project, cross section 6,362,300mN through IP chargeability inversions & planned drilling

**About the Havilah Project, Lachlan Fold Belt, NSW**

The Havilah Project is a granted Exploration Licence (EL8936) located within the eastern Lachlan Fold Belt (LFB) near Mudgee in central NSW (see Figure 4).

The Company is targeting porphyry/volcanic hosted copper-gold mineralisation in a belt of Ordovician age (Sofala) volcanic rocks in the Rockley-Gulgong Volcanic Belt, which is part of the Macquarie Arc in the LFB - a major geological province known for world-class copper-gold deposits such as Cadia-Ridgeway<sup>4</sup> and North Parkes<sup>5</sup> (see Figure 4).



**Figure 4: LFB Ordovician Volcanic Arcs and the location of the Cadia-Ridgeway and North Parkes Projects, and the Company's Havilah Project (adapted from Portergeo.com.au<sup>3,4</sup>).**

The Havilah tenement includes an area of magnetic Ordovician Sofala Volcanics close to the northeastern margin of the Aaron's Pass Granite (see Figure 5). Mineralisation occurs on the tenement within this magnetic aureole at the historical Milfor and Cheshire copper workings, which are hosted by altered Sofala Volcanics that contain pyrite and chalcopyrite (copper sulphide). Extensive stream sediment copper anomalism occurs across the northeastern margin of the Aaron's Pass batholith, which outcrops immediately to the southwest of the Havilah tenement. This granitic intrusion is associated with porphyry Mo-W-Cu mineralisation west of the Havilah tenement at the Mt Pleasant Prospect<sup>6</sup> (see Figure 5).

The Company previously announced extensive copper with gold and zinc anomalies, including several values of more than 1% copper (see Figure 1)<sup>3</sup>, associated with the strongly altered and mineralised Sofala Volcanics and northeast and north-south trending structures within the magnetic aureole of the Aaron's Pass Granite (see Figure 5).

**The extensive surface copper mineralisation and the strong sub-surface IP anomalies detected, together represent a major porphyry/volcanic hosted copper-gold target zone which is now being drill tested with this maiden diamond drilling program.**

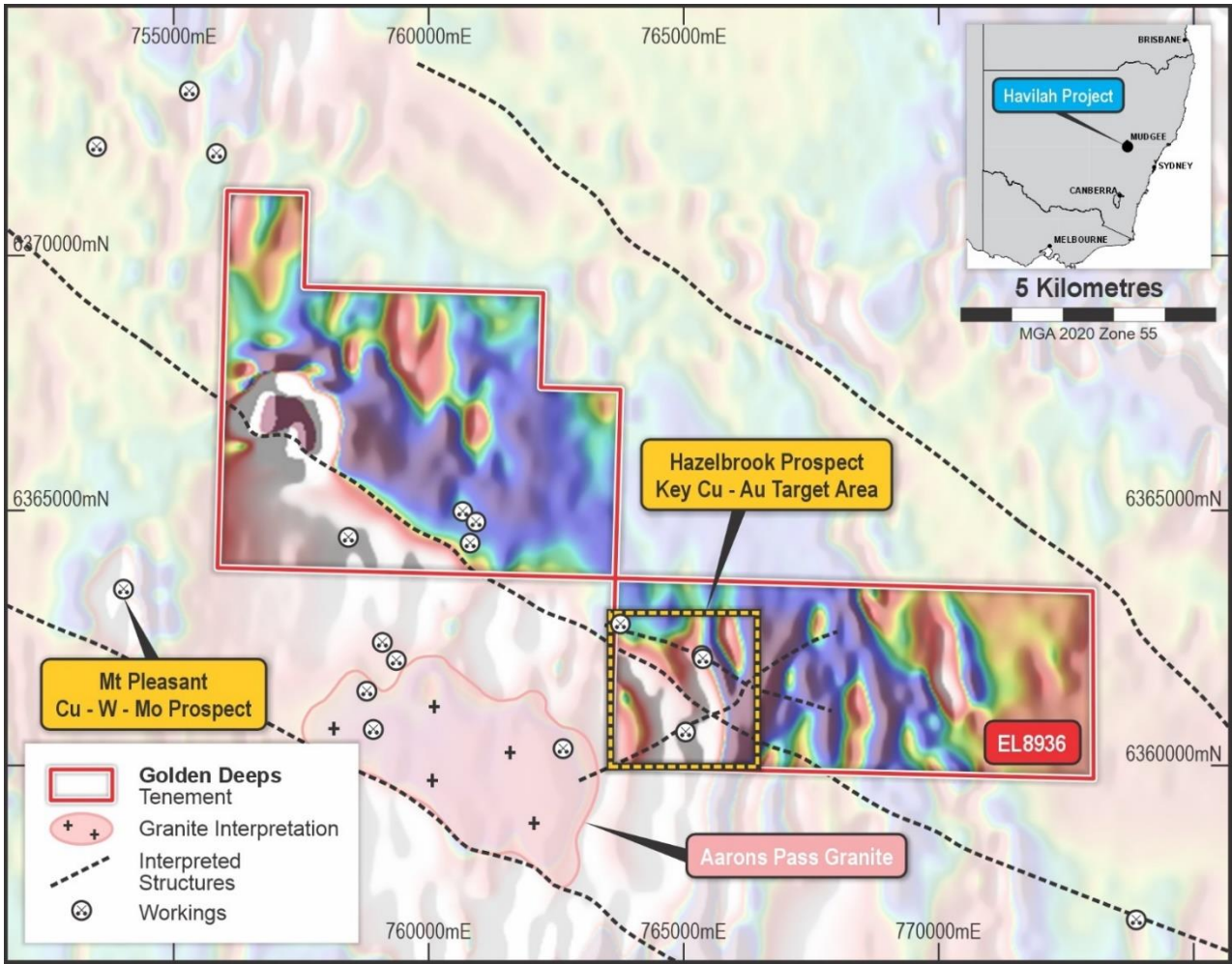


Figure 5: Location of the Havilah Project and the Hazelbrook Cu-Au porphyry target area on magnetics image

References

- <sup>1</sup> Golden Deeps Ltd, ASX 14 February 2024: Strong IP Porphyry Cu-Au Targets Identified at Havilah.
- <sup>2</sup> Golden Deeps Ltd, ASX 14 March 2023: Potential for Large Porphyry Copper-Gold System at Havilah.
- <sup>3</sup> Golden Deeps Ltd, ASX 03 March 2022. Outstanding Copper Soil and Rockchip Results, Havilah Project, NSW.
- <sup>4</sup> Cadia Valley Operations – Ridgeway, Cadia Hill. [Portergeo.com.au/database/mineinfo.asp?mineid=mn228](http://Portergeo.com.au/database/mineinfo.asp?mineid=mn228)
- <sup>5</sup> Northparkes/Goonumbla, Endeavour. [portergeo.com.au/database/mineinfo.asp?mineid=mn232](http://portergeo.com.au/database/mineinfo.asp?mineid=mn232)
- <sup>6</sup> Minrex Resources Ltd (ASX:MRR), 2 September 2021: Mt Pleasant Project Approved for Exploration.

This announcement was authorised for release by the Board of Directors.

\*\*\*ENDS\*\*\*

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### **Cautionary Statement regarding Forward-Looking Information:**

*This document contains forward-looking statements concerning Golden Deeps Ltd. Forward-looking statements are not statements of historical fact and actual events and results may differ materially from those described in the forward-looking statements as a result of a variety of risks, uncertainties and other factors. Forward-looking statements are inherently subject to business, economic, competitive, political and social uncertainties and contingencies. Many factors could cause the Company's actual results to differ materially from those expressed or implied in any forward-looking information provided by the Company, or on behalf of, the Company. Such factors include, among other things, risks relating to additional funding requirements, metal prices, exploration, development and operating risks, competition, production risks, regulatory restrictions, including environmental regulation and liability and potential title disputes. Forward looking statements in this document are based on the company's beliefs, opinions and estimates of Golden Deeps Ltd as of the dates the forward-looking statements are made, and no obligation is assumed to update forward looking statements if these beliefs, opinions and estimates should change or to reflect other future developments.*

### **Competent Person Statement:**

*The information in this report that relates to exploration results, mineral resources and metallurgical information has been reviewed, compiled and fairly represented by Mr Jonathon Dugdale. Mr Dugdale is the Chief Executive Officer of Golden Deeps Ltd and a Fellow of the Australian Institute of Mining and Metallurgy ('FAusIMM'). Mr Dugdale has sufficient experience, including over 34 years' experience in exploration, resource evaluation, mine geology and finance, relevant to the style of mineralisation and type of deposits under consideration to qualify as a Competent Person as defined in the 2012 Edition of the Joint Ore Reserves Committee ('JORC') Australasian Code for Reporting of Exploration Results, Minerals Resources and Ore Reserves. Mr Dugdale consents to the inclusion in this report of the matters based on this information in the form and context in which it appears. The Company confirms that it is not aware of any new information or data that materially affects the information included in the original market announcements. 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 announcement.*

### **ASX Listing rules Compliance:**

*In preparing this announcement the Company has relied on the announcements previously made by the Company as listed under "References". The Company confirms that it is not aware of any new information or data that materially affects those announcements previously made, or that would materially affect the Company from relying on those announcements for the purpose of this announcement.*

## APPENDIX 1: JORC 2012 Table 1

### Section 1 Sampling Techniques and Data

(Criteria in this section apply to all succeeding sections.)

Criteria	JORC Code explanation	Commentary
<b>Sampling techniques</b>	<ul style="list-style-type: none"> <li>Nature and quality of sampling (eg cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc). These examples should not be taken as limiting the broad meaning of sampling.</li> <li>Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.</li> <li>Aspects of the determination of mineralisation that are Material to the Public Report.</li> <li>In cases where 'industry standard' work has been done this would be relatively simple (eg 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (eg submarine nodules) may warrant disclosure of detailed information.</li> </ul>	<ul style="list-style-type: none"> <li>Soil sampling in 2021 and 2022 was carried out by Rangott Mineral Exploration Pty Ltd initially on a 200m x 100m grid with infill on a 50m x 20m grid. Samples were collected from surface in areas of skeletal soils or, where deeper, from approximately 20cm below surface and sieved to -1mm before submission to the ALS laboratory, Orange NSW for gold (Au) by fire assay and other elements analysis by ICP-MS.</li> <li>Rock chip samples in 2022 were collected by Rangott Mineral Exploration Pty Ltd from selected outcrop and, where possible, collected across the trike of structures located. Samples were submitted to the ALS laboratory in Orange NSW for gold (Au) by fire assay and other elements analysis by ICP-MS.</li> <li>Previous exploration within EL8936 has primarily comprised stream sediment sampling, soil sampling, geological mapping, IP surveys and percussion drilling. The four main prospects identified are the Cheshire Copper Mine, the Milfor prospect, the TH Creek prospect and the Cudgegong prospect.</li> </ul>
<b>Drilling techniques</b>	<ul style="list-style-type: none"> <li>Drill type (eg core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (eg core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc).</li> </ul>	<ul style="list-style-type: none"> <li>No drilling reported in this release.</li> </ul>
<b>Drill sample recovery</b>	<ul style="list-style-type: none"> <li>Method of recording and assessing core and chip sample recoveries and results assessed.</li> <li>Measures taken to maximise sample recovery and ensure representative nature of the samples.</li> <li>Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.</li> </ul>	<ul style="list-style-type: none"> <li>No drilling reported in this release.</li> </ul>
<b>Logging</b>	<ul style="list-style-type: none"> <li>Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies.</li> </ul>	<ul style="list-style-type: none"> <li>No drilling reported in this release.</li> </ul>

Criteria	JORC Code explanation	Commentary
	<ul style="list-style-type: none"> <li>Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.</li> <li>The total length and percentage of the relevant intersections logged.</li> </ul>	
<b>Sub-sampling techniques and sample preparation</b>	<ul style="list-style-type: none"> <li>If core, whether cut or sawn and whether quarter, half or all core taken.</li> <li>If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.</li> <li>For all sample types, the nature, quality and appropriateness of the sample preparation technique.</li> <li>Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.</li> <li>Measures taken to ensure that the sampling is representative of the in-situ material collected, including for instance results for field duplicate/second-half sampling.</li> <li>Whether sample sizes are appropriate to the grain size of the material being sampled.</li> </ul>	<ul style="list-style-type: none"> <li>No drilling reported in this release.</li> </ul>
<b>Quality of assay data and laboratory tests</b>	<ul style="list-style-type: none"> <li>The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.</li> <li>For geophysical tools, spectrometers, handheld XRF instruments, etc, the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc.</li> <li>Nature of quality control procedures adopted (e.g., standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (ie lack of bias) and precision have been established.</li> </ul>	<ul style="list-style-type: none"> <li>Rockchip and soil samples were submitted to Australian Laboratory Service (ALS) in Orange, NSW.</li> <li>35 elements including copper, lead and zinc were assayed using Aqua Regia digestion and ICP-AES.</li> <li>Gold was assayed using a 50g charge using Fire Assay.</li> <li>The assaying and laboratory procedures are appropriate for this style of mineralisation.</li> </ul>
<b>Verification of sampling and assaying</b>	<ul style="list-style-type: none"> <li>The verification of significant intersections by either independent or alternative company personnel.</li> <li>The use of twinned holes.</li> <li>Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.</li> <li>Discuss any adjustment to assay data.</li> </ul>	<ul style="list-style-type: none"> <li>No drilling reported in this release.</li> </ul>
<b>Location of data points</b>	<ul style="list-style-type: none"> <li>Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.</li> <li>Specification of the grid system used.</li> </ul>	<ul style="list-style-type: none"> <li>Soil sample and rockchip locations by hand held GPS (+/- 5m accuracy). The coordinates are in MGA94 Zone 55.</li> </ul>



Criteria	JORC Code explanation	Commentary
	<ul style="list-style-type: none"> <li>Quality and adequacy of topographic control.</li> </ul>	
<b>Data spacing and distribution</b>	<ul style="list-style-type: none"> <li>Data spacing for reporting of Exploration Results.</li> <li>Whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied.</li> <li>Whether sample compositing has been applied.</li> </ul>	<ul style="list-style-type: none"> <li>No drilling reported in this release.</li> </ul>
<b>Orientation of data in relation to geological structure</b>	<ul style="list-style-type: none"> <li>Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.</li> <li>If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material.</li> </ul>	<ul style="list-style-type: none"> <li>No drilling reported in this release.</li> </ul>
<b>Sample security</b>	<ul style="list-style-type: none"> <li>The measures taken to ensure sample security.</li> </ul>	<ul style="list-style-type: none"> <li>No drilling reported in this release.</li> </ul>
<b>Audits or reviews</b>	<ul style="list-style-type: none"> <li>The results of any audits or reviews of sampling techniques and data.</li> </ul>	<ul style="list-style-type: none"> <li>No audits or reviews of the sampling data conducted.</li> </ul>

## JORC 2012 Edition - Section 2 Reporting of Exploration Results

(Criteria listed in the preceding section also apply to this section.)

Criteria	JORC Code explanation	Commentary
<b>Mineral tenement and land tenure status</b>	<ul style="list-style-type: none"> <li>Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings.</li> <li>The security of the tenure held at the time of reporting along with any known impediments to obtaining a licence to operate in the area.</li> </ul>	<ul style="list-style-type: none"> <li>Golden Deeps Limited acquired 100% of Extract Minerals Pty Ltd (Extract Minerals) which holds the Havilah Project (EL8936) in the Lachlan Fold Belt, New South Wales.</li> <li>Exploration Licence EL8936 was granted on 4<sup>th</sup> February 2020 for a two-year term. On 23 March 2022 the tenement was renewed for a further 6-year term to 4<sup>th</sup> February 2028.</li> </ul>
<b>Exploration done by other parties</b>	<ul style="list-style-type: none"> <li>Acknowledgment and appraisal of exploration by other parties.</li> </ul>	<ul style="list-style-type: none"> <li>The most comprehensive exploration program at the Cheshire Mine – Milfor prospect was conducted by Mt. Hope Minerals NL between 1971 and 1976. Subsequent work comprised reviews of existing data and regional sampling.</li> <li>The TH Creek prospect was explored by Neo Resources NL/Perpetual Resources Limited between 2010 and 2019.</li> </ul>
<b>Geology</b>	<ul style="list-style-type: none"> <li>Deposit type, geological setting and style of mineralisation.</li> </ul>	<ul style="list-style-type: none"> <li>The Havilah Project (EL8936) covers sediments and volcanics of the Tannabutta Group and the Sofala Volcanics within the Lachlan Fold Belt. The Project is primarily prospective for porphyry/volcanic hosted copper-gold mineralisation analogous to the Cadia-Ridgeway deposit (Newcrest Ltd). Areas of the project immediately adjoining the Bowdens Silver Project are prospective for silver-zinc-lead skarn mineralisation.</li> </ul>
<b>Drill hole Information</b>	<ul style="list-style-type: none"> <li>A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes: <ul style="list-style-type: none"> <li>easting and northing of the drill hole collar</li> <li>elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar</li> <li>dip and azimuth of the hole</li> <li>down hole length and interception depth</li> <li>hole length.</li> </ul> </li> <li>If the exclusion of this information is justified on the basis that the information is not Material and this exclusion does not detract from the understanding of the report, the Competent Person should clearly explain why this is the case.</li> </ul>	<ul style="list-style-type: none"> <li>Rockchip sample coordinates and results are detailed in Golden Deeps Ltd, ASX release 14 March 2023: “Potential for Large Porphyry Copper-Gold System at Havilah”.</li> </ul>

Criteria	JORC Code explanation	Commentary
<b>Data aggregation methods</b>	<ul style="list-style-type: none"> <li><i>In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (e.g., cutting of high grades) and cut-off grades are usually Material and should be stated.</i></li> <li><i>Where aggregate intercepts incorporate short lengths of high-grade results and longer lengths of low-grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail.</i></li> <li><i>The assumptions used for any reporting of metal equivalent values should be clearly stated.</i></li> </ul>	<ul style="list-style-type: none"> <li>No drilling reported in this release.</li> <li>Previous drillhole sampling was conducted at 5-foot intervals.</li> </ul>
<b>Relationship between mineralisation widths and intercept lengths</b>	<ul style="list-style-type: none"> <li><i>These relationships are particularly important in the reporting of Exploration Results.</i></li> <li><i>If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.</i></li> <li><i>If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (e.g., 'down hole length, true width not known').</i></li> </ul>	<ul style="list-style-type: none"> <li>No drilling reported in this release.</li> </ul>
<b>Diagrams</b>	<ul style="list-style-type: none"> <li><i>Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported. These should include, but not be limited to a plan view of drill hole collar locations and appropriate sectional views.</i></li> </ul>	<ul style="list-style-type: none"> <li>Refer to Figure 1 for the location of relevant data generated by the Company in plan view.</li> <li>Figure 2 is a 3-d model of the IP geophysical anomalies and surface geochemical data and planned drilling. Figure 3 is a schematic cross section through the northern part of the project with 3-d IP chargeability inversions.</li> <li>Refer to Figures 4 and 5 for regional location and geological setting.</li> </ul>
<b>Balanced reporting</b>	<ul style="list-style-type: none"> <li><i>Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.</i></li> </ul>	<ul style="list-style-type: none"> <li>No drilling reported in this release.</li> </ul>
<b>Other substantive exploration data</b>	<ul style="list-style-type: none"> <li><i>Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical survey results; geochemical survey results; bulk samples – size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.</i></li> </ul>	<ul style="list-style-type: none"> <li>Geophysical surveys referred to in this release included: <ul style="list-style-type: none"> <li>A detailed gravity survey carried out by Fender Geophysics comprising approximately 965 gravity meter stations on east west lines across the Hazelbrook prospect. Data was processed and reduction to complete bouger values included terrain corrections. Image processing produced the image shown on Figure 1.</li> </ul> </li> </ul>

Criteria	JORC Code explanation	Commentary
		<ul style="list-style-type: none"> <li>- An Induced Polarisation (IP) program was carried out by Fender Geophysics on east-west lines across the Hazelbrook prospect. The IP survey included 16 lines in two stages of dipole-dipole IP (DDIP) utilising a 100m dipole length. The time domain for the data was 2 seconds or 0.125. The IP survey used GDD RX-32 – 16 channel receivers and a GDD TxII IP Transmitter. 2-D inversion models have been modelled in 3-d to produce the shells shown on Figures 2 and 3.</li> <li>• No other data is material to this report.</li> </ul>
<b>Further work</b>	<ul style="list-style-type: none"> <li>• <i>The nature and scale of planned further work (e.g., tests for lateral extensions or depth extensions or large-scale step-out drilling).</i></li> <li>• <i>Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.</i></li> </ul>	<ul style="list-style-type: none"> <li>• A drilling program which is underway will test the strongest part of the IP anomaly located within the Hazelbrook Prospect area, as well as test the geochemical targets at Hazelbrook and Hazelbrook North and potentially the Milfor Prospect (see Figure 1).</li> </ul>