



17 July 2023

## Mallina Gold Project Update

Mantle Minerals Limited (ASX:MTL) (“the Company”) is pleased to announce the Company has completed drill hole targeting work and is now making progress towards commencing an aircore drilling campaign later this year. This proposed drilling program is expected to exceed 250 holes for a total of about 15,000m.

### **HIGHLIGHTS**

- Aircore drilling program is planned to exceed 250 drill holes for a total of about 15,000m later this year.
- A focus on targeting rocks and structures near the renowned Hemi deposit is driven by the strong correlation between proximity and potential for similar mineralisation at Robert’s Hill.
- Heritage and environmental approvals are underway, which will determine the drilling commencement timeframe.
- Drilling campaign to be fully funded from a cash balance of \$2.86m.
- Process of granting the Mt Berghaus tenements is on track

**Mantle Minerals Limited Executive Chairman, Nick Poll said:**

*“We’re very focused on getting back to drilling for gold at Roberts Hill, we are immediately north of DeGrey’s discovery of 10.6M ounces of gold and our ground is vastly under explored in comparison.*

*Any potential deposit is going to be concealed by over 5m of covering sediments and surface soil sampling was inconclusive, so geophysics and aircore drilling are the most effective methods we will have, to make a discovery.*

*The Mantle team has done its homework and developed a comprehensive view of our geology and drilling targets from geology and geophysics. We think our rocks are related to Hemi’s rocks, so we’re excited about getting back out into the field to test our targets later this year.”*

Mantle has developed the proposed drilling program from a comprehensive evaluation of the Robert's Hill and Mt Berghaus geology, geochemistry and geophysics over the last 6 months. This work suggests that the geology of Roberts Hill might be related to the geology of Hemi and its satellite deposits (Figure 1). Most importantly, geophysics suggests that the stratigraphy at Roberts Hill might be trending north-south and could connect with the stratigraphy that forms the Hemi gold trend.

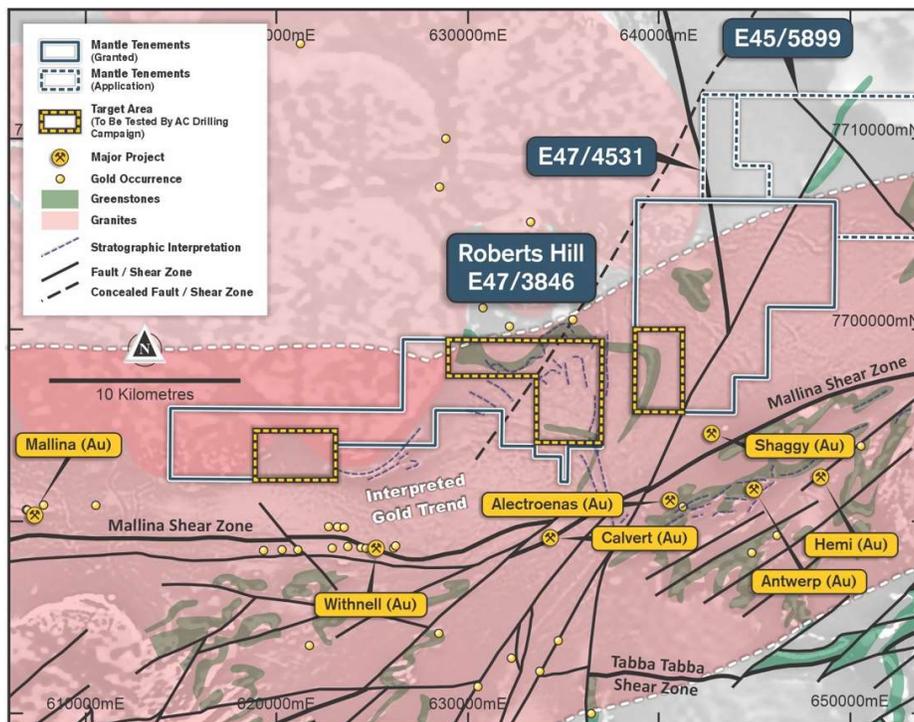


Figure 1: Target Areas for Proposed Aircore Drilling Program, Roberts Hill

The program will use the blade method of aircore drilling. This is the most commonly used drilling method by other companies in the area, as it is economical, effective and provides excellent coverage in the absence of other targeting methods. . This type of drilling extends down as far as it can to fresh rock, where the blade eventually meets refusal. This depth could reach up to 100m, but commonly extends to between 60m and 80m deep. Additional reverse circulation drill holes will be considered if aircore drilling cannot obtain adequate depths.

An orientation soil sampling survey, completed earlier in the year, was inconclusive in targeting gold anomalies with sufficient confidence. As a result, Mantle does not intend



to scale up soil sampling over any of its gold exploration tenements. Geophysics and aircore drilling remain the cheapest and most effective methods, to make a gold discovery under +5m of concealing sediments.

The heritage and environmental approvals process is underway and the Department of Mines is currently assessing Mantle's proposed Program of Work for aircore drilling at Roberts Hill.

The proposed 15,000m of drilling is planned for the Roberts Hill tenements only. Additional drilling has been planned for Mt Berghaus as part of the 6-month evaluation. Accordingly, the Company can immediately apply for heritage and environmental approvals upon granting of the Mt Berghaus tenements.

The Company is still awaiting news on granting of the Mt Berghaus tenements and is unable to provide guidance on timing. However, Mantle confirms the process remains on track and there is no indication of a return to court proceedings.

The Roberts Hill drilling program and associated work will be fully funded from the Company's current cash balance of \$2.87m.

## Background

The Roberts Hill project is located within an interpreted gold trend extending from Whim Creek and Toweranna gold mines eastwards through Hemi and potentially beyond. The area is easily accessed by 45 minutes' drive south west of Port Hedland along the Great Northern Highway (Figure 2).

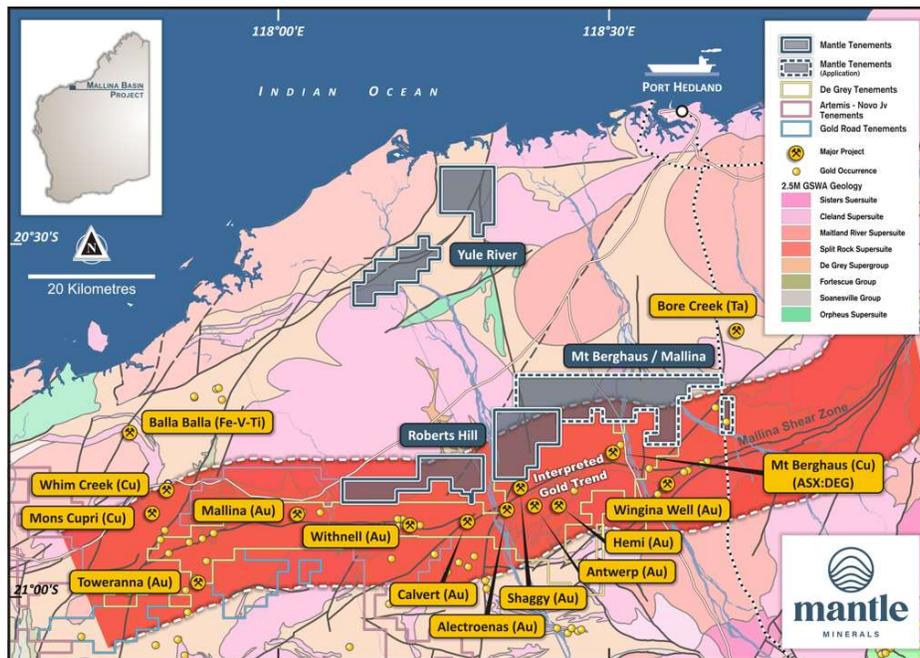


Figure 2. Project location map and proximity to the interpreted gold trend

This announcement has been authorized for release by the Mantle Minerals Limited Board of Directors.

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## Competent Person Statement

The information contained in this report to exploration results relates to information previously announced by the Company and the Company is not aware of any new information which materially affects the information included in those announcements. The information was compiled or reviewed by Mr Nick Poll. Mr Poll is the Company's Executive Chairman. Mr Poll has sufficient experience of relevance to the styles of mineralization and the types of deposits under investigation, and to the activities undertaken to qualify as a Competent Person as defined in the 2012 edition of the Joint Ore Reserve Committee (JORC) "Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves".

## Forward-Looking Statement Disclaimer

This announcement contains forward-looking statements that involve a number of risks and uncertainties. These forward-looking statements are expressed in good faith and believed to have a reasonable basis. These statements reflect current expectations, intentions, or strategies regarding the future and assumptions based on currently available information. Should one or more of the risks or uncertainties materialize, or should underlying assumptions prove incorrect, actual results may vary from the expectations, intentions, and strategies described in this announcement. No obligation is assumed to update forward-looking statements if these beliefs, opinions, and estimates should change or to reflect other future developments.



## JORC Code, 2012 Edition – Table 1 report template

### Section 1 Sampling Techniques and Data

(Criteria in this section apply to all sections of this announcement.)

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 1m 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>Mantle Sampling was undertaken using standard industry practices including the use of duplicates and standards at regular intervals.</li> </ul> <p><b>Air Core (AC) Drilling</b></p> <p>AC samples are composited at 4m intervals using an aluminium scoop from spoil piles with all composite intervals over 0.25g/t Au resampled at 1m intervals using the primary cyclone split calico bags. Individual 1m samples were selected where significant alteration is intersected such as quartz veining and sulphides. Sample weight approximately 1.5-2kg each to ensure total preparation at the laboratory preparation stage. The sample size is deemed appropriate for the grain size of the material being sampled. <ul style="list-style-type: none"> <li>All coordinates are in UTM grid9GDA94 Z50) and drillhole collars have been surveyed by handheld GPS to ensure accuracy of within +/-0.3m.</li> <li>Samples are sent to ALS laboratories in Perth for Multielement analysis (AusME-TL44). A 50g charge after sample preparation is digested by Aqua Regia to deliver trace level analytes for regolith-bedrock mineralization.</li> </ul> </p>
<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>AC drilling was undertaken by Bostech Drilling utilizing a Drill boss 200. AC holes were drilled with a Black Diamond 3" hammer.</li> </ul>



Criteria	JORC Code explanation	Commentary
<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>Mantle contracted drillers use industry appropriate methods to maximize sample recovery and minimize downhole contamination including using compressed air to maintain a dry sample in air core drilling.</li> <li>No significant sample loss or bias has been noted in current drilling or in the historical reports or from MGV drill campaigns.</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> <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>	<ul style="list-style-type: none"> <li>All geological, structural and alteration related observations were stored in the database. Air core hole would not be used in any resource estimation, mining, or metallurgical studies.</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> </ul>	<ul style="list-style-type: none"> <li>NA. No Diamond Core drilling was carried out.</li> <li>AC samples are taken from 1m sample piles and composited at 4m interval using a plastic scoop.</li> <li>Sample preparation at ALS is by dry pulverization to 85% passing 75microns.</li> <li>Mantle field QAQC procedures involve the use of certified reference standards, duplicates, and blanks at consistent intervals for mineral resource modelling and studies.</li> <li>Sampling is carried out using standard protocols and QAQC procedures as per industry practice.</li> </ul>



Criteria	JORC Code explanation	Commentary
	<ul style="list-style-type: none"> <li>Whether sample sizes are appropriate to the grain size of the material being sampled.</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 (eg 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>4m composite and 1m AC samples analysis is undertaken by ALS Laboratories using Multi-Elements Analysis (AusME-TL44) protocols. Internal certified laboratory QAQC is undertaken including check samples, blanks, and internal standards. This methodology is considered appropriate for base and precious metal mineralization at the exploration phase.</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>Samples are verified by geologist before importing into the main database (Datashed).</li> <li>No twin holes have been drilled by mantle during this program.</li> <li>Field data is collecting using a standard set of templates. Geological samples logging is undertaken on a Panasonic Toughbook with structure, alteration and lithology recorded for each interval. Data is verified before loading to the database. Geological logging of all samples is undertaken.</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> <li>Quality and adequacy of topographic control.</li> </ul>	<ul style="list-style-type: none"> <li>All maps and locations of drillholes are in UTM grid (GDA94 Z50) and have been surveyed by hand-held GPS with an accuracy of +/-3m.</li> </ul>



Criteria	JORC Code explanation	Commentary
<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>Variable drill hole spacing are used to complete 1st pass testing of targets and are determined from geochemical, geophysical and geological data together with any historical drilling information.</li> <li>For the reported drilling drill hole spacing 200-300m for most holes except for tighter spacing where shallow bedrock was encountered.</li> <li>No resource have been calculated on regional drilling targets as described in this release due to the early stage nature of the drilling.</li> <li>4m composite samples were submitted for initial analysis in most cases. Composite sampling is undertaken using a plastic scoop at on 1 meter intervals and combined in a calico bag. Where composite assays are above 0.25g/t Au, individual 1m samples are re-submitted for gold assay. 1m individual samples and 2m composites may be submitted in certain intervals exhibiting strong alteration.</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>Drilling is designed to cross the geophysical feature of interest close to perpendicular as possible. Most drillholes are designed at a dip of 60 degrees and some are drilled vertically.</li> <li>No orientation-based sampling bias can be confirmed at this time and true widths are not yet known.</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>Chain of custody is managed by Mantle internal staff. Drill samples are stored on site and transported by a licensed reputable transport company to a registered laboratory in Perth (ALS Wangara). When at the laboratory samples are stored in locked yard before being processed and tracked through the ALS Webtrieve System.</li> </ul>



Criteria	JORC Code explanation	Commentary
<b><i>Audits or reviews</i></b>	<ul style="list-style-type: none"><li><i>The results of any audits or reviews of sampling techniques and data.</i></li></ul>	<ul style="list-style-type: none"><li>No audits have been completed on sampling techniques and data due to the early-stage nature of the drilling.</li></ul>