14 February 2024

ROBERTS HILL DRILL RESULTS

HIGHLIGHTS

- Best intersection **12m @ 0.48 g/t Au from 44m (including 4m @ 1.03 g/t Au)**
- Results received from all 175 aircore holes drilled in Q4 2023
- Multiple significant intersections define a new area of significant results about 2km x 2.75km
- Follow-up deep reverse circulation drilling planned for Q3 2024

Mantle Minerals Limited (ASX: MTL; "Mantle" or "the Company") has received significant intersections from its recent aircore drilling at Roberts Hill (Figure 1).

The results are encouraging and provide vectors for follow up reverse circulation drilling. Most importantly, the intersections define an area of significant results, approximately 2.0km x 2.75km (Figure 1).

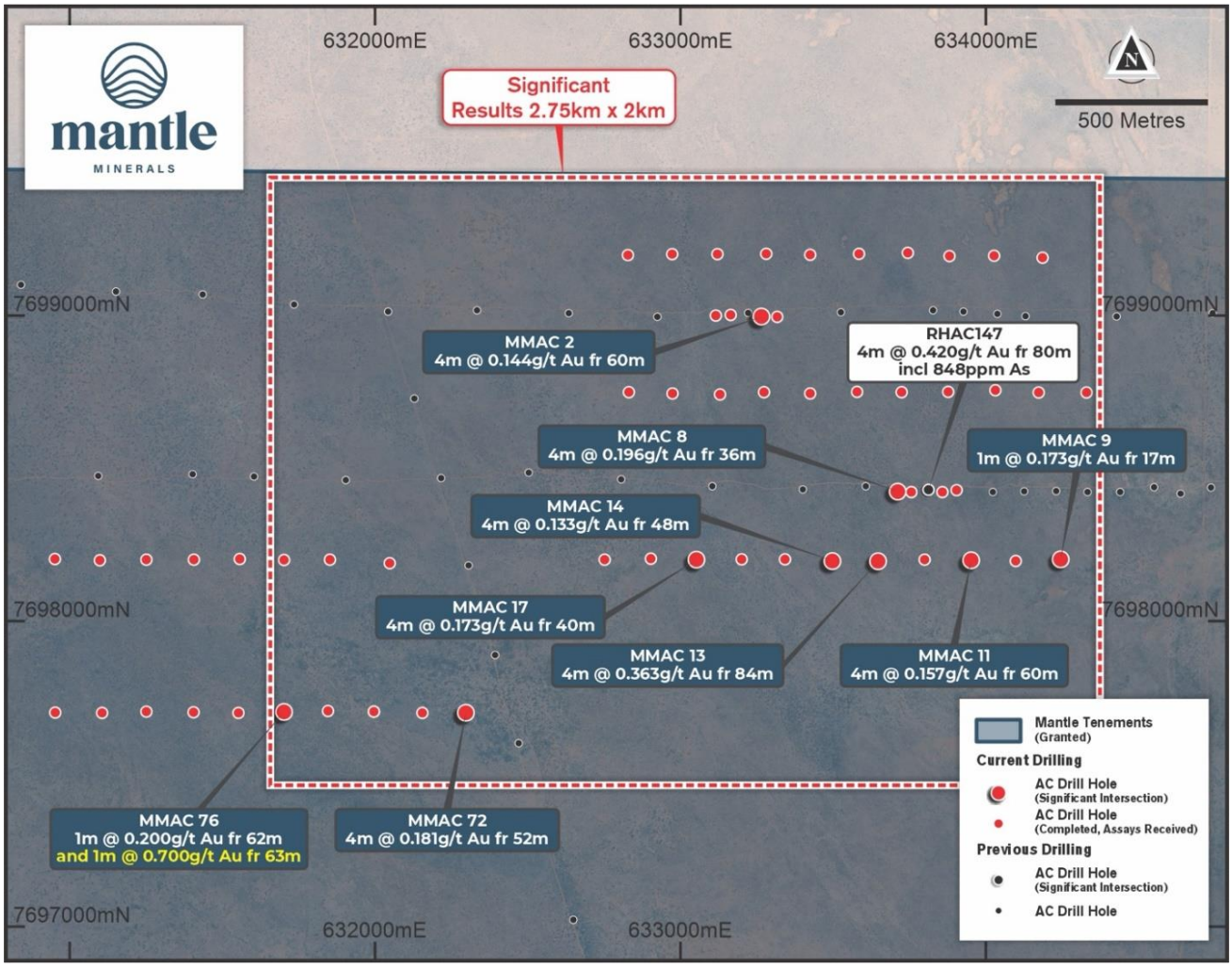

Figure 1: Roberts Hill Aircore Holes and Au values > 0.10 g/t (Table 2). Note RHAC 149 previously announced 25/01/2022.

Significant intersections from the recent drilling over 0.2 g/t Au include the following (Table 1):

Hole ID	Total depth (m)	Depth From (m)	Depth To (m)	Interval Width (m)	Au g/t
MMAC 76	69	63	64	1	0.70
MMAC 129	44	44	56	12	0.48
MMAC 13	90	84	88	4	0.36
MMAC 126	93	72	76	4	0.31
MMAC 129	87	48	52	4	0.24
MMAC 76	69	62	63	1	0.20

Table 1: Roberts Hill Aircore Intersections Over 0.2 g/t Au

The top result from previous drilling, 4m @ 0.42 g/t Au and 848 ppm arsenic in hole RHAC 147 (previously announced 25/01/2022) also lies within the area of significant results (Figure 1). The new results have added a further nine mineralised holes within the area. The strong repeatability of results in this area helps narrow the exploration focus at Roberts Hill and supports follow-up with reverse circulation drilling, to investigate deeper.

Geological logging of the drill chips indicates the significant gold intersections are in favorable rock types. This will be confirmed with the upcoming XRF analysis.

The largest intersection, 12m @ 0.48 g/t from 44m deep in hole MMAC 129, includes a higher grade intersection of 4m @ 1.03 g/t from 44m. This hole is located outside the area of significant results, east of the Yule River (Figure 2). It is hoped that this is a new area of significant results, for follow-up drilling later in the year.

Next Steps

All significant intersections have been submitted for XRF analysis to determine arsenic content and identify rock types. This will determine if the gold mineralisation is similar to the mineralisation found at Hemi and will guide future follow-up drilling programs.

Following the XRF results and relevant interpretations the Company plans to proceed to deeper RC drilling in Q3 of 2024 (soon after Mt Berghaus drilling which has been planned for Q2 2024).

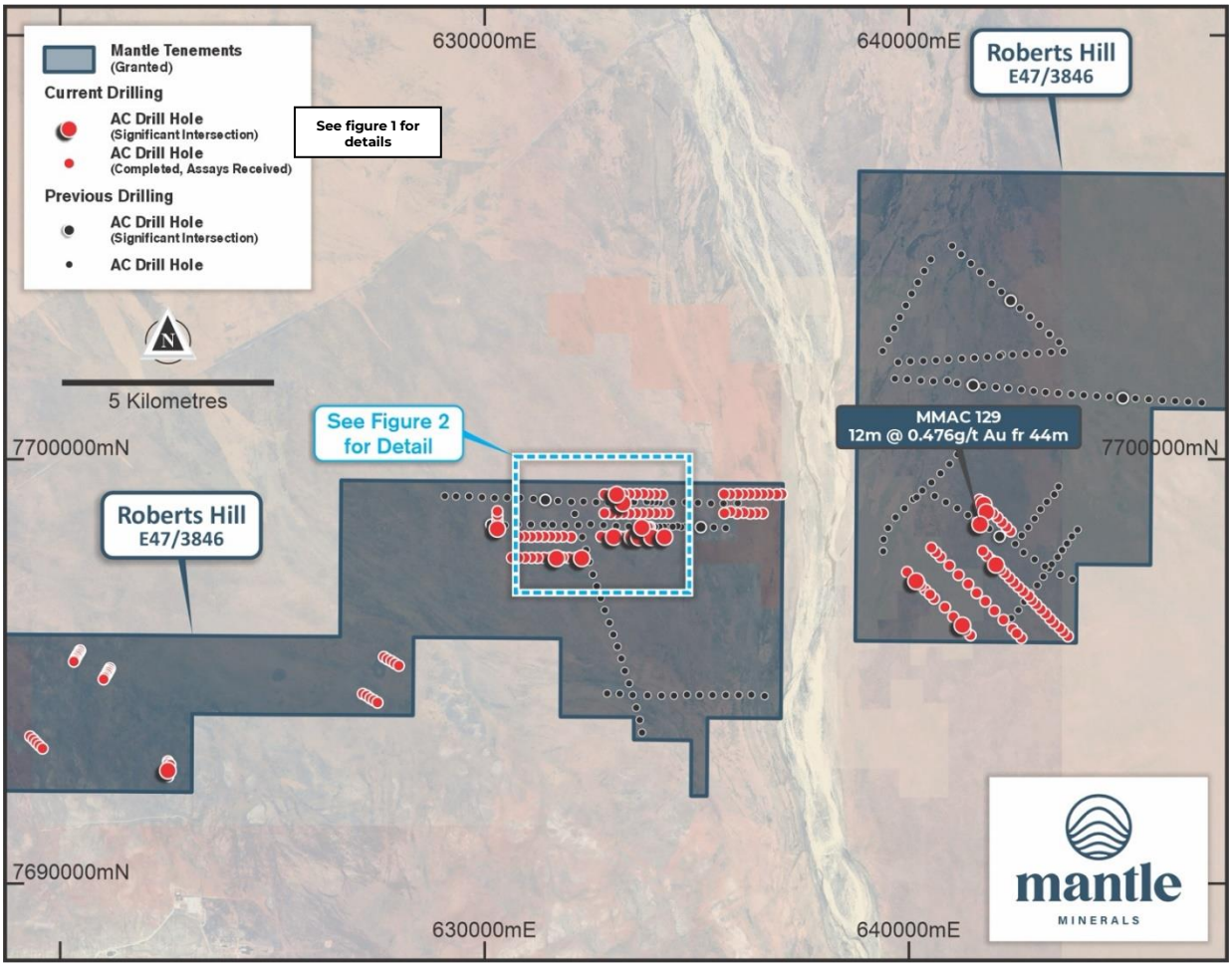

Figure 2: 2023 Roberts Hill Aircore Drilling, Tenure and Significant Intersection from hole MMAC 129

Drilling Planned Versus Actual

The drilling program totalled 175 aircore holes of a planned 197-hole program, and 13,478m of a planned 15,000m. The Company proactively shortened the drilling program where geological observations suggested a low probability of discovery.

Sampling details

Samples were collected in 4 metre interval composites, to reduce sampling and assay costs across the program. Whilst this might dilute the grade of smaller intersections, this is consistent with a broad-brush approach and drilling practice within the area, because the aim is to define areas for follow-up reverse circulation drilling. An end of hole sample, of one metre interval, provides an additional record for both rock type and oxidation, to confirm the drill hole reached maximum penetration in fresh rock.

Both composites and single samples were submitted to ALS Laboratory to determine their gold content by fire assay method. Some residual pulps from the assay laboratory will be analysed for arsenic and other elements by XRF over the next month. The selection of these samples will depend on their gold content and geological significance.

The presence of anomalous arsenic is positive because the Hemi deposit also has an anomalous arsenic signature. Other elements obtained from the XRF assays help to interpret host rock types. The strongest gold mineralisation at Hemi is found in mafic intrusions, so the XRF assays provide geological information for context and interpretation.

Background

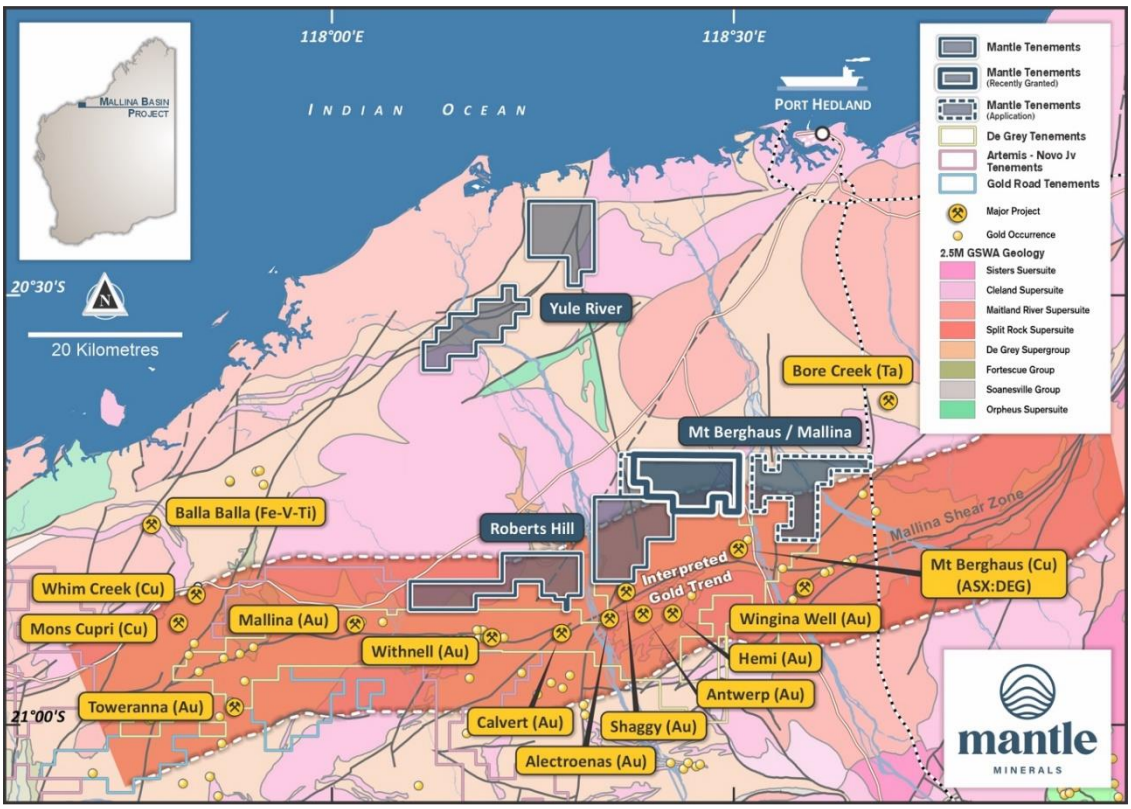

Figure 3. Project location map and proximity to the interpreted gold trend showing outline of original Mt Berghaus tenement application

Mantle Minerals is exploring for gold at Roberts Hill and Mt Berghaus, which are located immediately to the north of the giant Hemi gold mineralisation system, part of De Grey's 12.7m oz gold resource. The area is located within the Mallina shear zone, an interpreted gold trend extending from Whim Creek and Toweranna gold mines eastwards through Hemi and potentially beyond. The area is about 50 minutes drive southwest of Port Hedland along the Great Northern Highway (Figure 3 above).

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

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Competent Person Statement

The information within this announcement that relates to Exploration Results and Geological data at the Roberts Hill Project is based on information compiled by Mr. Chris Storey and is subject to the individual consents and attributions provided in the original market announcements and reports referred to in the text of this announcement. Mr. Storey is not aware of any other new information or data that materially affects the information included in the original market announcements or reports referred, and that all material assumptions and technical parameters have not materially changed.

Mr. Storey is a consultant to the Company and he has sufficient experience relevant to the styles of mineralisation and types of deposits under consideration and to the activities currently being undertaken to qualify as a Competent Person(s) as defined in the 2012 edition of the Australasian Code for Reporting of Exploration Results Mineral Resources and Ore Reserves and he consents to the inclusion of the above information in the form and context in which it appears in this report.

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

Hole ID	East	North	Azimuth Degrees	Dip (°)	Total depth (m)	Depth From (m)	Depth To (m)	Interval Width (m)	Au (g/t)
MMAC 2	633264	7698999	90	-60	75	60	64	4	0.14
MMAC 2	633264	7698999	90	-60	75	60	64	4	0.14
MMAC 8	633710	7698428	90	-60	99	36	40	4	0.20
MMAC 9	634243	7698205	90	-60	18	17	18	1	0.17
MMAC 11	633950	7698201	90	-60	66	60	64	4	0.16
MMAC 13	633646	7698198	90	-60	90	84	88	4	0.36
MMAC 14	633496	7698200	90	-60	83	48	52	4	0.13
MMAC 17	633051	7698204	90	-60	101	40	44	4	0.17
MMAC 38	633120	7699203	90	-60	80	76	80	4	0.01
MMAC 67	630306	7698394	180	-60	79	44	48	4	0.11
MMAC 72	632297	7697704	90	-60	99	52	56	4	0.18
MMAC 76	631701	7697705	90	-60	69	62	63	1	0.20
MMAC 76	631701	7697705	90	-60	69	63	64	1	0.70
MMAC 98	622549	7692696	180	-60	99	28	32	4	0.12
MMAC 126	641828	7698794	135	-60	93	64	68	4	0.10
MMAC 126	641828	7698794	135	-60	93	72	76	4	0.30
MMAC 127	641768	7698971	135	-60	93	28	32	4	0.17
MMAC 129	641682	7698507	135	-60	87	44	48	4	1.03
MMAC 129	641682	7698507	135	-60	87	48	52	4	0.24
MMAC 129	641682	7698507	135	-60	87	52	56	4	0.17
MMAC 129 (combined)	641682	7698507	135	-60	87	44	56	12	0.48
MMAC 147	642058	7697549	135	-60	81	52	56	4	0.13
Previously reported									
RHAC 147	633811	7698431	88	-60	100	80	84	4	0.42 g/t Au
RHAC 147	633811	7698431	88	-60	100	80	84	4	848 ppm As

Table 2. Tabulation of Information for intersections over 0.1 g/t Au. Note RHAC 147 previously announced 25/01/2022

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
Sampling techniques	• *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.* • *Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.* • *Aspects of the determination of mineralisation that are Material to the Public Report.* • *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.*	• Mantle Sampling was undertaken using standard industry practices including the use of duplicates and standards at regular intervals. **<u>Air Core (AC) Drilling</u>** 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. • All coordinates are in UTM grid9GDA94 Z50) and drillhole collars have been surveyed by handheld GPS to ensure accuracy of within +/-0.3m. • 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.
Drilling techniques	• *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).*	• AC drilling was undertaken by Bostech Drilling utilizing a Drill boss 200. AC holes were drilled with a Black Diamond 3" hammer.
Drill sample recovery	• *Method of recording and assessing core and chip sample recoveries and results assessed.* • *Measures taken to maximise sample recovery and ensure representative nature of the samples.*	• 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. • No significant sample loss or bias has been noted in current drilling or in the historical reports or from MGV drill campaigns.

Criteria	JORC Code explanation	Commentary
	• *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.*	
Logging	• *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.* • *Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.* • *The total length and percentage of the relevant intersections logged.*	• All geological, structural ad alteration related observations were stored in the database. Air core hole would not be used in any resource estimation, mining, or metallurgical studies.
Sub-sampling techniques and sample preparation	• *If core, whether cut or sawn and whether quarter, half or all core taken.* • *If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.* • *For all sample types, the nature, quality and appropriateness of the sample preparation technique.* • *Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.* • *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.* • *Whether sample sizes are appropriate to the grain size of the material being sampled.*	• NA. No Diamond Core drilling was carried out. • AC samples are taken from 1m sample piles and composited at 4m interval using a plastic scoop. • Sample preparation at ALS is by dry pulverization to 85% passing 75microns. • Mantle field QAQC procedures involve the use of certified reference standards, duplicates, and blanks at consistent intervals for mineral resource modelling and studies. • Sampling is carried out using standard protocols and QAQC procedures as per industry practice.
Quality of assay data and laboratory tests	• *The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.* • *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.*	• 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.

Criteria	JORC Code explanation	Commentary
	• *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.*	
Verification of sampling and assaying	• *The verification of significant intersections by either independent or alternative company personnel.* • *The use of twinned holes.* • *Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.* • *Discuss any adjustment to assay data.*	• Samples are verified by geologist before importing into the main database (Datashed). • No twin holes have been drilled by mantle during this program. • 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.
Location of data points	• *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.* • *Specification of the grid system used.* • *Quality and adequacy of topographic control.*	• 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.
Data spacing and distribution	• *Data spacing for reporting of Exploration Results.* • *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.* • *Whether sample compositing has been applied.*	• 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. • For the reported drilling drill hole spacing 200-300m for most holes except for tighter spacing where shallow bedrock was encountered. • No resource have been calculated on regional drilling targets as described in this release due to the early stage nature of the drilling. • 4m composite samples were submitted for initial analysis in most cases. Composite sampling is undertaken using a plastic scoop at on1 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.

Criteria	JORC Code explanation	Commentary
Orientation of data in relation to geological structure	• *Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.* • *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.*	• 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. • No orientation-based sampling bias can be confirmed at this time and true widths are not yet known.
Sample security	• *The measures taken to ensure sample security.*	• 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.
Audits or reviews	• *The results of any audits or reviews of sampling techniques and data.*	• No audits have been completed on sampling techniques and data due to the early-stage nature of the drilling.

Section 2 Exploration Results

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

Criteria	JORC Code explanation	Commentary
Mineral tenement and land tenure status	• *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.* • *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.*	• The Roberts Hill Gold project resides on E47/3846 and is located approximately 65 km SW of Port Hedland in the Pilbara, WA. The tenement is controlled by Caeneus Minerals through its wholly owned subsidiary Mt Roe Mining Pty Ltd. • The tenement is in good standing and no known impediments exist.
Exploration done by other parties	• *Acknowledgment and appraisal of exploration by other parties.*	• No significant drilling has been undertaken on the tenement historically other than a shallow RC water bore. Mantle Minerals has undertaken exploration since 2020.

Criteria	JORC Code explanation	Commentary
Geology	• *Deposit type, geological setting and style of mineralisation.*	• Geology comprises greenstone belt lithologies and granite intrusives.

Drill hole Information	• *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:*
	  ○ *easting and northing of the drill hole collar*
	  ○ *elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar*
	  ○ *dip and azimuth of the hole*
	  ○ *down hole length and interception depth*
	  ○ *hole length.*
	• *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.*
		• All AC drill hole collars with assays received and considered significant are reported on in the body of the text and in Table 1 of this announcement.

Data aggregation methods	• *In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (eg cutting of high grades) and cut-off grades are usually Material and should be stated.* • *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.* • *The assumptions used for any reporting of metal equivalent values should be clearly stated.*	• Significant assay intervals are tabulated where required. No cut off has been applied to any sampling. • Reported intervals are aggregated as an average where a set of 4m composite assay results are concurrent over 8-12m of width. • No metal equivalent values have been reported.
Relationship between mineralisation widths and intercept lengths	• *These relationships are particularly important in the reporting of Exploration Results.* • *If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.* • *If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (eg 'down hole length, true width not known').*	• True widths are not confirmed at this time although all drilling is planned close to perpendicular to interpreted strikes of target shears at the time of drilling.

Criteria	JORC Code explanation	Commentary
Diagrams	• *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.*	• NA.
Balanced reporting	• *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.*	• NA. All anomalous grades have been reported in the body of the text.
Other substantive exploration data	• *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.*	• All material results from geochemical and geophysical surveys and drilling, related to these prospects has been reported or disclosed previously.
Further work	• *The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling).* • *Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.*	• AC infill drilling will be considered to follow up any significant intercepts. • NA. Refer to text in the body of this announcement.