ASX ANNOUNCEMENT 25 March 2019

Biogeochem yields multiple new gold targets at Aurora Tank

Marmota Limited (ASX: MEU) ("Marmota")

Marmota (ASX:MEU) is very pleased to announce that the recent biogeochem (tree sampling) program carried out in December 2018 at Aurora Tank has yielded **multiple new gold targets**, both adjacent / extensional to the Goshawk gold discovery itself, and outside the discovery zone.

Summary

- Marmota's recent drill program at Aurora Tank yielded high-grade gold intersections, including an outstanding intersection over **88 g/t gold** at 38m from surface in Hole 104 (approximately 200m to the west of our previous best intersection of **93 g/t** at 32m from surface) [ASX:MEU 14 Nov 2018 & 17 Jan 2019]
- Marmota was guided to this location by our innovative biogeochem (tree sampling) R&D program and our first testing of that R&D method in a drill program. The program is receiving considerable interest, including articles in the ABC News, *The Australian* (20 Nov 2018) and most recently in the Sydney Morning Herald (7 March 2019) and Reuters (7 March 2019).
- In December, Marmota immediately followed up the excellent results with a detailed biogeochem program, testing an elliptical zone almost 2km long (major axis) by 1km wide, with the Goshawk gold discovery at its centre [Fig. 6].
- Marmota is very pleased to announce that assay results from the December biogeochemical sampling have identified **multiple new gold drill targets** based on gold anomalism in tree leaves [see Fig. 1].
- The program has also identified zones that are anomalous in elements such as Antimony [Fig. 2] and Bismuth [Fig. 3] that are widely considered to be significant pathfinders for gold.

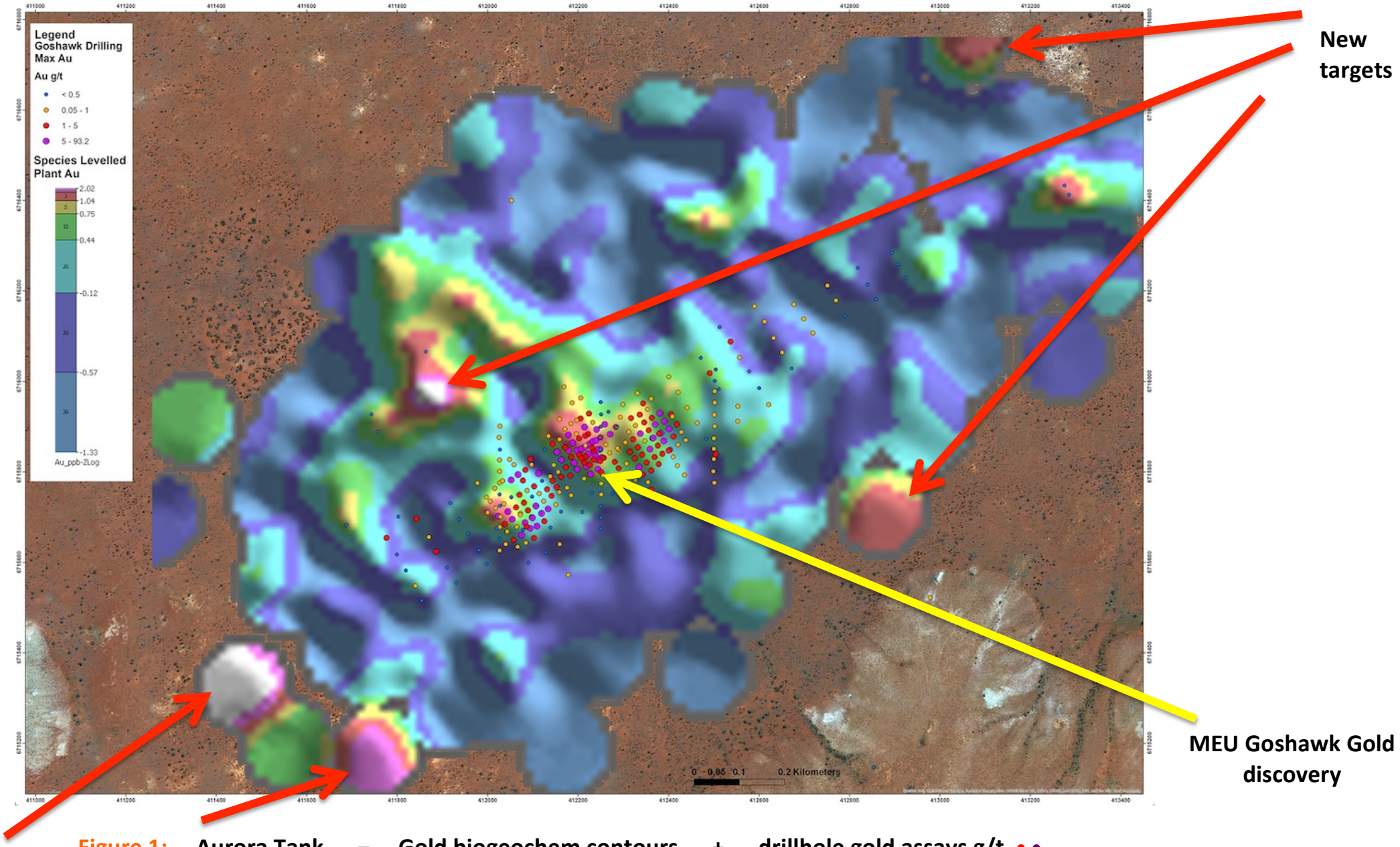


Figure 1: **Aurora Tank – Gold biogeochem contours + drillhole gold assays g/t • •**

Note: White-coloured areas denote the highest biogeochem gold anomalies

Biogeochemical Sampling at Aurora Tank

Biogeochemical exploration involves the sampling of plant matter (*e.g.* tree leaves at the surface) by chemical analysis, with the aim to identify mineralisation below the surface.
Marmota's biogeochemical sampling commenced at Aurora Tank in 2018, and has now included 3 main programs, starting with a small trial program to test whether native plants common to the area could identify known gold mineralisation (*i.e.* could it identify the Aurora Tank gold discovery by itself).

Biogeochemical sampling at Marmota's Aurora Tank gold project has:

a) Clearly **identified the known mineralisation zone** at Goshawk (*i.e.* the method works)
b) Led to the **discovery of the outstanding high-grade intersection of 88 g/t** in the most recent drill program (ASX:MEU 17 Jan 2019), and
c) Now identified **multiple new gold targets** at Aurora Tank

The December 2018 Biogeochem Program

Most recently, in December 2018, Marmota carried out our largest and most detailed biogeochemical sampling program (**extensional** and **infill)** at Aurora Tank to test for additional drill targets adjacent to the known mineralised zone (Goshawk), and surrounding that zone, on the Aurora Tank tenement.

The December program consists of 329 new biogeochem samples collected at 200m x 200m spacing, with infill to 40 x 40m closer to Goshawk and also around anomalies identified in the initial sampling programs [see Fig. 6]. Sampling involved the collection of leaf samples from each tree or shrub sampled, with samples then shipped to a specialist laboratory for preparation, assaying and analysis. Ideally, the sampling of one species of plant is preferred. In our case, two species of trees — Mulga (*Acacia anuera*) and Senna (*Senna a. spp.*) — were selected as the preferred sampling media, being the two most widely distributed species around Goshawk.

Results

Gold [see Fig. 1]

Analysis[1] of the results highlights elevated anomalous gold (Au) distribution in plants sampled over and immediately adjacent to known mineralisation at Goshawk.

Significant anomalous extensions include:

1. An extensive zone of gold anomalism has been identified to the NW of known mineralisation
2. New anomalies identified at edges of the current sampling: to the NE, SE and SW of Goshawk, some of which will require further in-fill sampling.

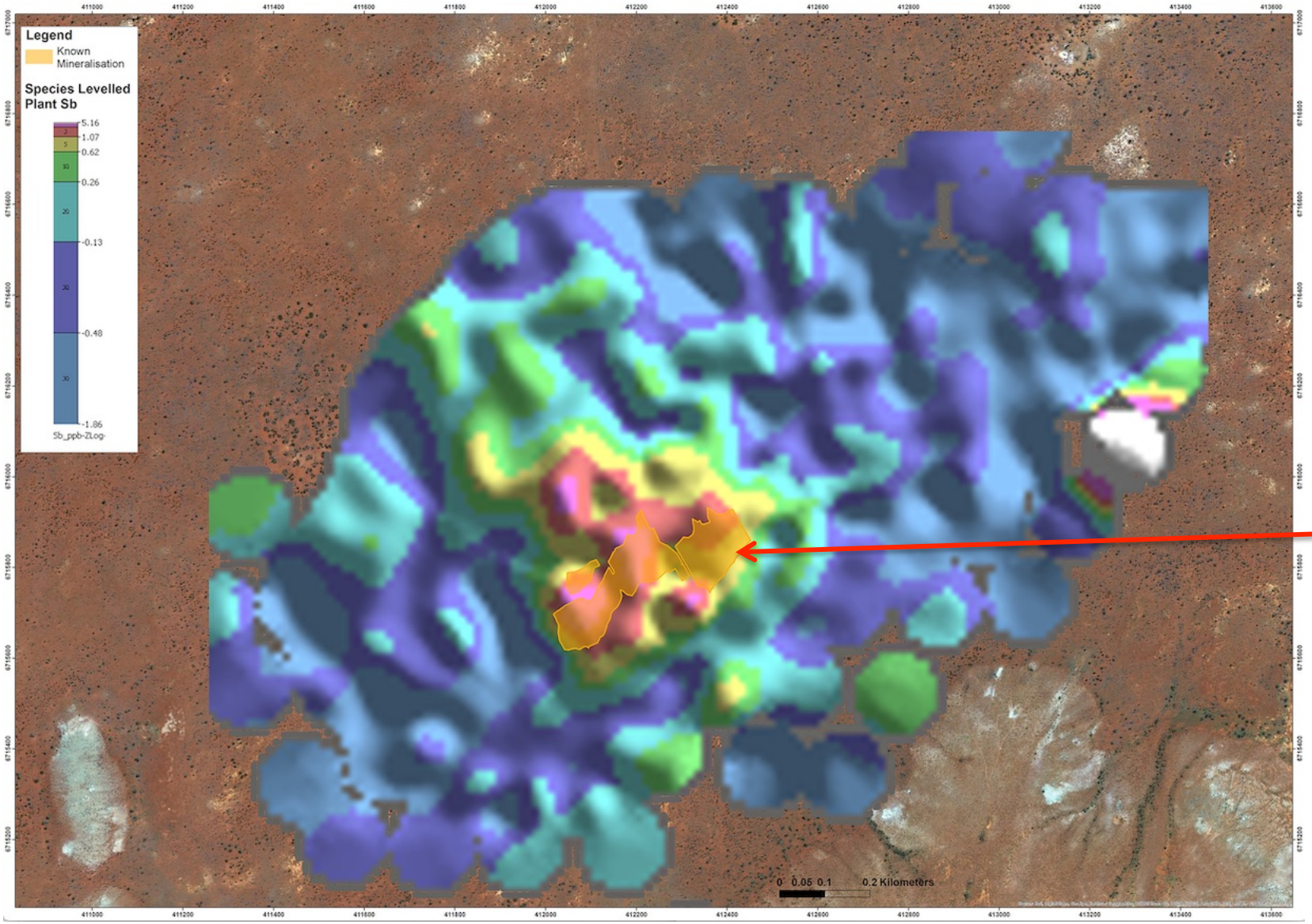
The majority of the newly identified biogeochemical Au anomalism is not seen in the calcrete sample data, representing new targets within a radius of 500m of Goshawk to test for additional mineralisation.

Gold pathfinder elements: Antimony [Fig. 2] and **Bismuth** [Fig. 3]

Gold can exhibit a nugget effect with respect to plant assays (as with other sample media) and have a limited anomaly footprint. For these reasons, a combination of gold and pathfinder elements is likely to represent a highly effective tool for Au exploration at Aurora Tank.

Two such gold pathfinder elements are antimony (Sb) [see Fig. 2] and bismuth (Bi) [see Fig. 3].

[1] As leaves from two different species of plants (acacia and senna trees) were used in biogeochemical sampling, the data for each species has been levelled to produce contoured images for each element. The levelling is required due to the different nutritional requirements of each species resulting in different element uptake and usage patterns between species. The levelling method used (Z-log levelling) results in both species having the same mean with grade distributions preserved around that mean. The result of the levelling is to allow the data from two different species to be used in contour mapping of the results as one consistent dataset.



Goshawk zone:
Zone of currently known gold mineralisation

Figure 2: **Antimony biogeochem contours + zone of currently known gold mineralisation**

A zone of highly anomalous Antimony (Sb) lies under and adjacent to known mineralisation at Goshawk.
And, like the Au-in-plant distribution, an extensive zone of anomalous Sb continues to the NW of Goshawk, indicating the potential for further Au mineralisation, within the tested radius of 400m from known mineralisation.
Note: White-coloured areas denote the highest biogeochem antimony anomalies.

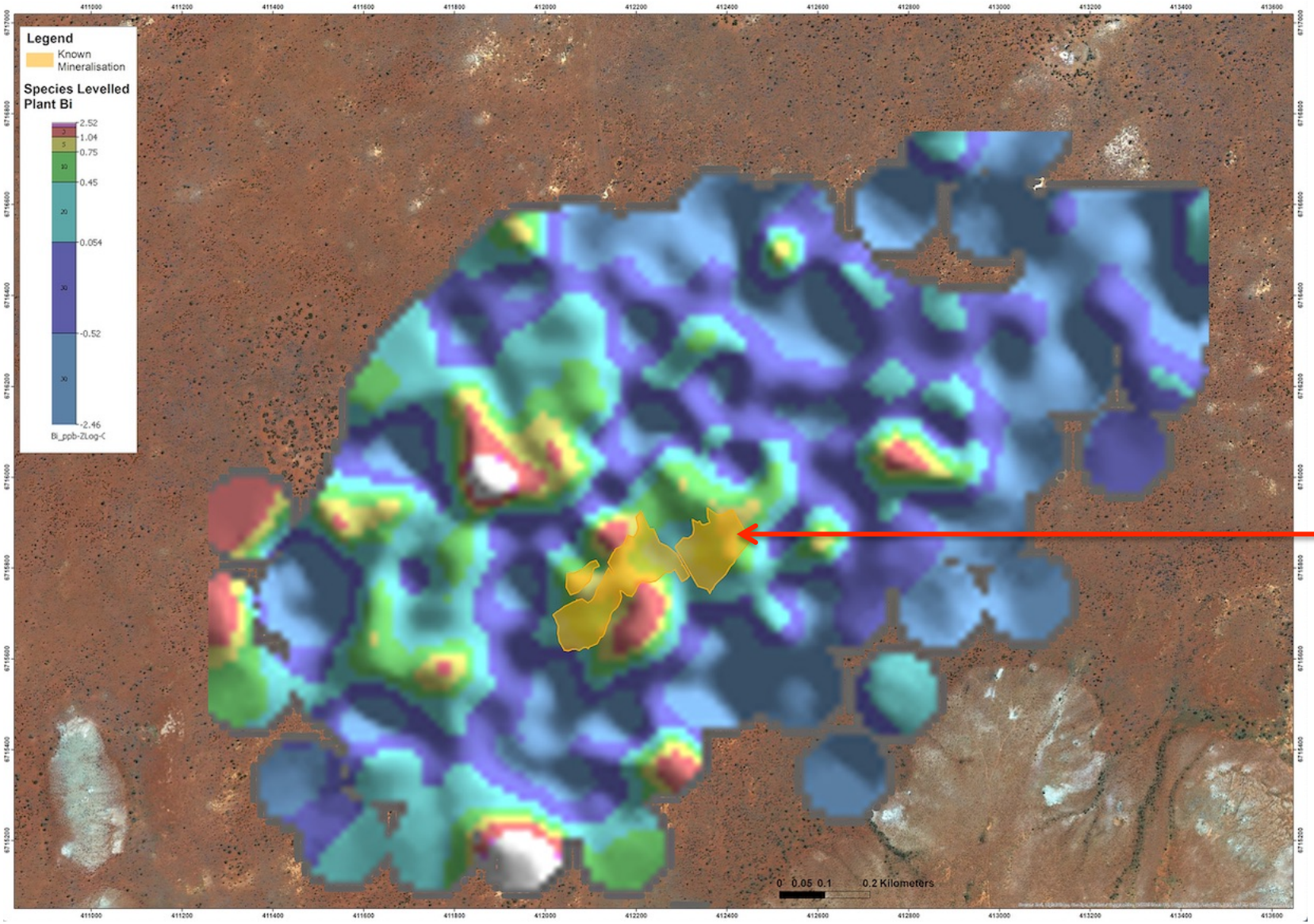


Figure 3: **Bismuth biogeochem contours + zone of currently known gold mineralisation**

A zone of anomalous Bi is present under and immediately around known mineralisation at Goshawk.
A second NNE trending zone of anomalous Bi is present to the NW of Goshawk, coinciding with zones of Au in the biogeochemical sampling.
Note: White-coloured areas denote the highest biogeochem bismuth anomalies

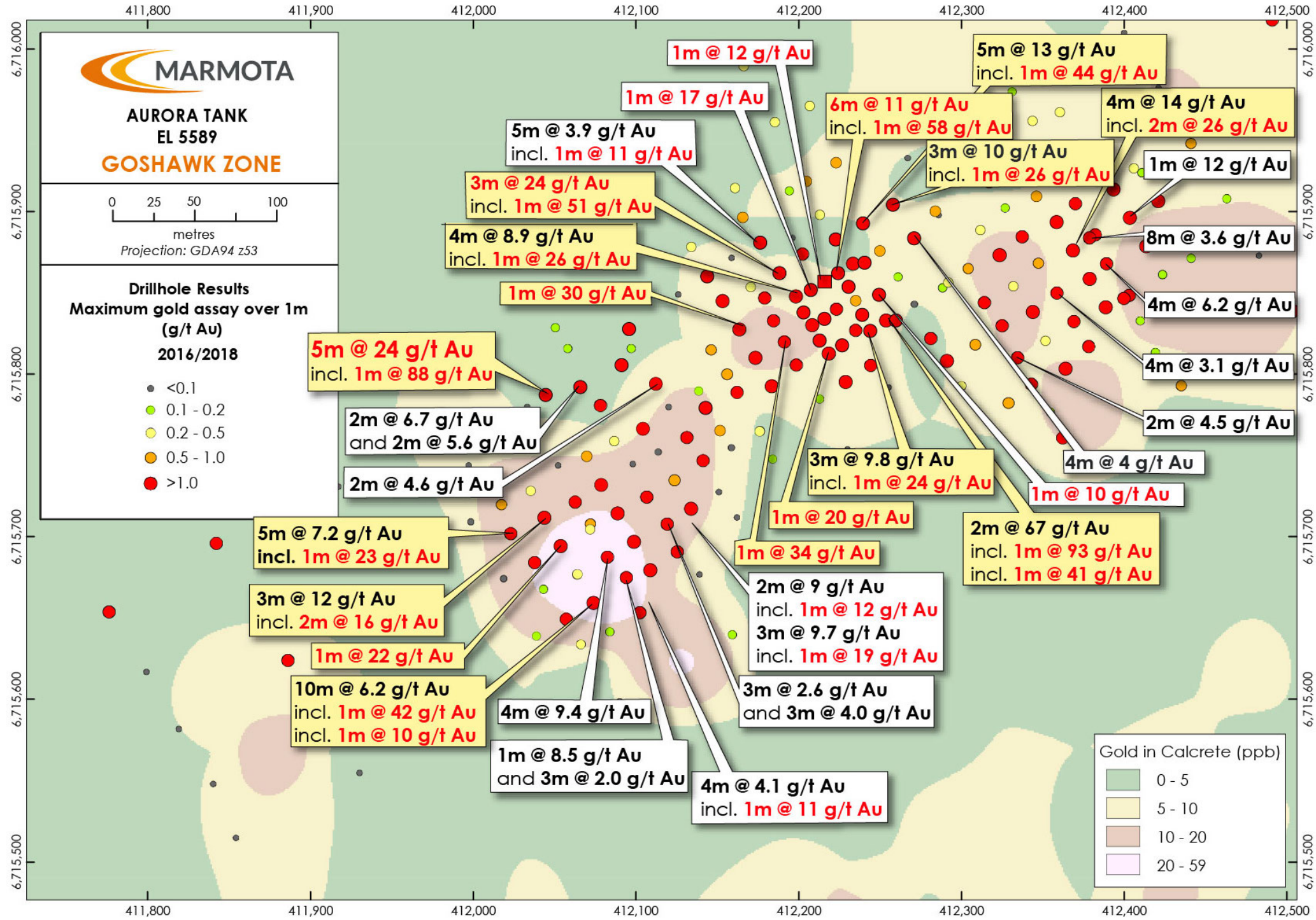


Figure 4: **Aurora Tank – Goshawk zone – Best downhole gold results**

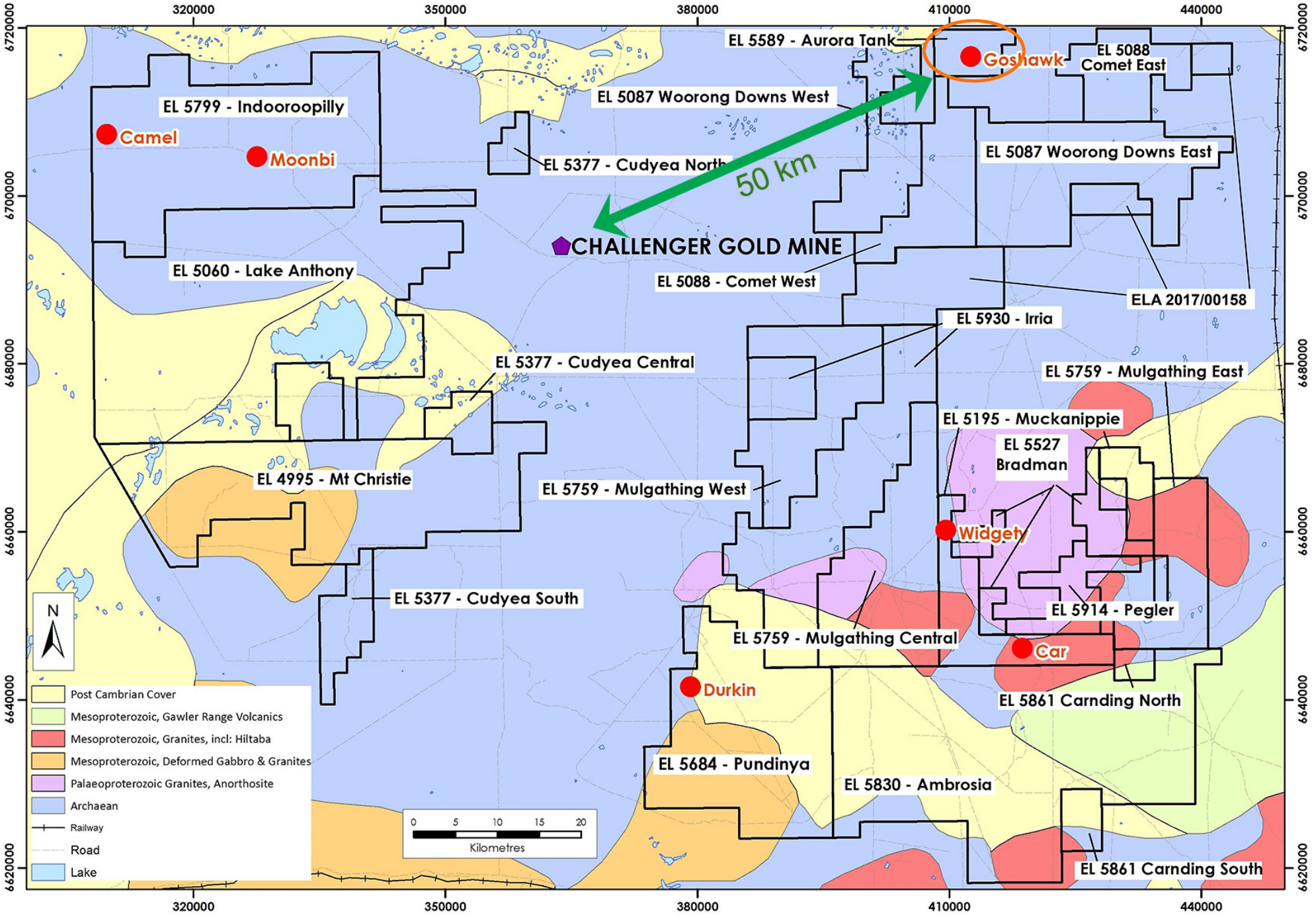


Figure 5: **Marmota's Aurora Tank tenement and tenements around the Challenger Gold Mine**

Next Stage Drilling being planned

Based on the new biogeochem results, planning is already underway for:

- A **reconnaissance** drill program to test the newly identified gold targets
- **Extensional** drilling at the Goshawk discovery, guided by the biogeochemical results

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About Marmota Limited

Marmota Limited (ASX: MEU) is a South Australian mining exploration company, focused on gold, copper and uranium. Gold exploration is centred on the Company's dominant tenement holding in the highly prospective and significantly underexplored Gawler Craton, near the Challenger gold mine, in the Woomera Prohibited Defence Area. The Company's copper project is based at the Melton project on the Yorke Peninsula. The Company's uranium project is at Junction Dam adjacent to the Honeymoon mine.

For more information, please visit: www.marmota.com.au

Competent Persons Statement

Information in this Release relating to Exploration Results is based on information compiled by Dr Kevin Wills, who is a Fellow of the Australasian Institute of Mining and Metallurgy. He has sufficient experience which is relevant to the styles of mineralisation and types of deposits under consideration and to the activities being undertaken to qualify as a Competent Person as defined in the 2012 Edition of the "Australasian Code of Reporting of Exploration Results, Mineral Resources and Ore Reserves." Dr Wills consents to the inclusion in this report of the matters based on this information in the form and context in which it appears.

Where results from previous announcements are quoted, Marmota confirms that it is not aware of any new information or data that materially affects the information included in the relevant market announcement and, in the case of estimates of Mineral Resources, that all material assumptions and technical parameters underpinning the estimates in the relevant market announcement continue to apply and have not materially changed.

APPENDIX 1 JORC Code, 2012 Edition – Table 1 report

Section 1 Sampling Techniques and Data

(Criteria in this section apply to all succeeding sections)

Criteria	JORC Code explanation	Commentary
Sampling techniques	▪ *Nature and quality of sampling (e.g. 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 (e.g. 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverized 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 (e.g. submarine nodules) may warrant disclosure of detailed information.*	▪ 200 to 300gm samples of leaves where collected from Acacia or Senna plants on either a 200m by 200m grid or on a 40 x 40m grid for infill sampling or sample collected closest to mineralisation at Goshawk ▪ Samples collected were exclusively leaves.

Criteria	JORC Code explanation	Commentary
Drilling techniques	▪ *Drill type (e.g. core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (e.g. 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).*	▪ n/a
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.* ▪ *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.*	▪ n/a
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.*	▪ n/a
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.*	▪ Biogeochemical samples were collected from a consistent height around the circumference of the plant being sampled ▪ Samples were placed in calico bags ▪ Samples were sent to LabWest in Perth for milling, microwave assisted digest and analysis ▪ QA/QC checks included standards, blanks and duplicate samples at an interval 1 in 30 samples in addition to Laboratory internal QA/QC procedures ▪ The sampling and preparation methods are considered appropriate for biogeochemical samples
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.* ▪ *Nature of quality control procedures adopted (eg standards, blanks, duplicates, external laboratory checks)*	▪ The leaves were milled in a Retsch Mill, with up to 2g of sample digested by microwave assisted digest using a modified aqua regia solution ▪ QAQC including Marmota and laboratory inserted standard, blanks and duplicate samples at approximately 1 in 20 samples ▪ As multi-element analysis is best for interpretation of biogeochemical results, samples were assayed for 66 elements

Criteria	JORC Code explanation	Commentary
	and whether acceptable levels of accuracy (i.e. 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.*	▪ n/a
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.*	▪ Biogeochemical sample location was recorded in GIS software on a GPS equipped iPad, along with all other relevant information for each sample ▪ Locations recorded as GDA 94 coordinates
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.*	▪ Samples were collected on a 200m x 200m down to 40m x 40m diamond shaped grid
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.*	▪ The diamond shaped sampling grid and sample spacing was adequate to define known mineralisation and provide biogeochemical anomalies for target definition
Sample security	▪ *The measures taken to ensure sample security.*	▪ Samples were transported from site by Marmota personnel and securely freighted to LabWest.
Audits or reviews	▪ *The results of any audits or reviews of sampling techniques and data.*	▪ This programme is part of an R&D project investigating biogeochemical surface expression of gold anomalism in the Gawler Craton

Section 2 Reporting of Exploration Results

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

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.*	▪ Aurora Tank (EL 5589) is 100% owned by Marmota Limited. EL 5589 is located approximately 100 km southwest of Coober Pedy in South Australia. ▪ There are no third party agreements, non-government royalties, historical sites or environmental issues. ▪ Exploration is conducted within lands of the Antakirinja Matu-Yankunytjatjara Native Title Determination Area. ▪ The tenement is in good standing.
Exploration done by other parties	▪ *Acknowledgment and appraisal of exploration by other parties.*	▪ Exploration in the Commonwealth Hill region has been carried out by a number of exploration companies previously including; ▪ Kennecott Explorations (Australia) Pty Ltd (1968-69) ▪ Dampier Mining Co. Ltd (1978-79) ▪ Afmeco Pty Ltd (1980-83) ▪ Stockdale Prospecting Ltd (1986-87) ▪ SADME (1996-97) ▪ Minotaur Gold NL (1993-99) ▪ Redport Ltd (1997-2002) ▪ Apollo Minerals (2013-15)
Geology	▪ *Deposit type, geological setting and style of mineralisation.*	▪ The Goshawk zone of Aurora Tank is situated in the Christie Domain of the western Gawler Craton. The Christie Domain is largely underlain by late Archaean Mulgathing Complex which comprises of meta-sedimentary successions interlayered with Banded Iron Formations (BIF), chert, carbonates and calc-silicates. ▪ Marmota is targeting Challenger-style Late Archaean gold whilst being open for occurrence of a variety of other mineralisation styles which may also exist in the tenement area.
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.*	▪ A plan showing historic and Marmota drilling is included in this announcement

Criteria	JORC Code explanation	Commentary
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.*	▪ No data aggregation methods have been applied
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 (e.g. 'down hole length, true width not known').*	▪ n/a
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.*	▪ n/a
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.*	▪ All biogeochemical data was levelled and gridded for the elements reported in the announcement
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.*	▪ See attached ASX Release. Geological observations are included in that report.
Further work	▪ *The nature and scale of planned further work (e.g. 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.*	▪ See attached release. ▪ Marmota is currently reviewing results received to date, and is planning additional regional and follow up biogeochemical sampling ▪ Planning is underway for a reconnaissance drill program to test the newly identified drill targets ▪ Planning is underway for extensional drilling at Goshawk guided by the proximal biogeochemical results

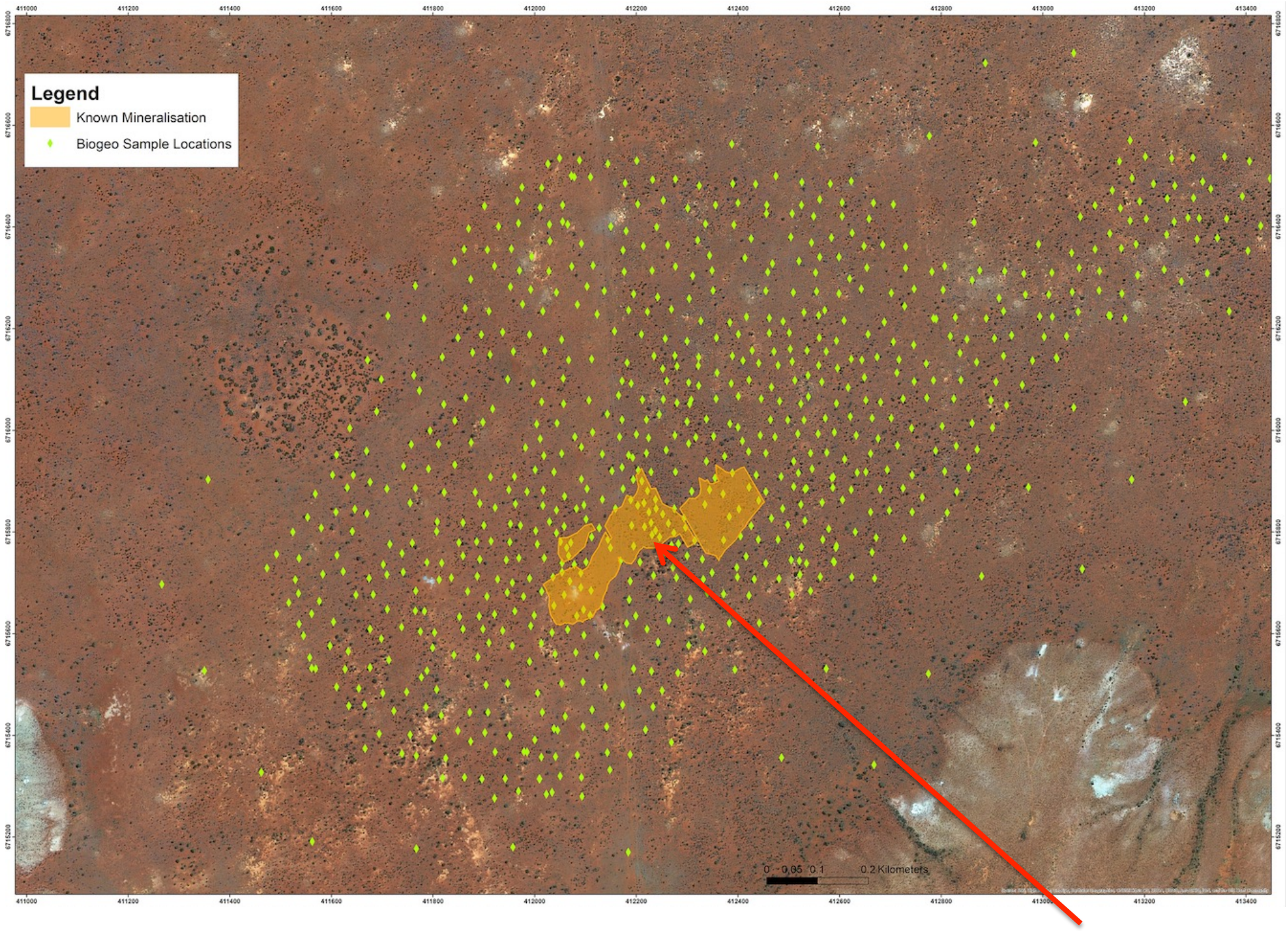

Figure 6: **Aurora Tank – Location of Biogeochemical samples**