

ASX ANNOUNCEMENT

7 May 2019

# Aurora Tank resampling yields gold grades over 100 g/t

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

New samples collected from Aurora Tank for QA/QC verification have confirmed the previous 1m outstanding grade of 88g/t (at 38m from surface), with new samples yielding grades up to 150 g/t, and increasing the average grade to 105g/t.

- On 17 January 2019, Marmota (ASX:MEU) announced detailed 1m assay drilling results at Aurora Tank, featuring a new gold intersection of 1m @ 88 g/t (at 38m from surface) in Hole 18ATRC104, and averaging 24 g/t gold over 5m (commencing 38m from surface) [ASX:MEU 17 Jan 2019]. That intercept of 24 g/t over 5m has recently been featured in the 'Top Drill Intersections per State Australia Q1 2019' published by the RSC Mineral Intelligence Report (May 2019): see Figure 1 below (p.9 of the RSC Report).
- As part of our QA/QC process, to confirm the reliability of outstanding intercepts, and to provide a measure of the variability of grade over the same interval *from new samples*:

a) In March 2019, Marmota returned to Aurora Tank to collect resamples from Hole 18ATRC104.

b) For each 1m interval over the range from 38m to 43m downhole, Marmota collected 5 new (nonpulverised) samples from each 1m interval bag, by collecting 5 new spear samples from each (approx. 40kg) 1m interval bag. In total, 25 fresh samples were collected, and sent to Bureau Veritas for assaying for QA/QC control.

 The resampled assays have confirmed the outstanding intercept, and have increased both the maximum and average grades over the test interval.

				Fire	Fire		
Interval	Sample ID		Gold Au_g/t	assay repeat 1	assay repeat 2	<b>Original Au g/t</b> (ASX:MEU 17 Jan 2019)	New Average Au g/t
Interval	ATT001	Spear 1	102	103	103	(ASX.IVIEO 17 Jail 2019)	Average Au g/t
	ATT002	Spear 2	63	60	60		
38-39m	ATT003	Spear 3	131	134	142	88.8 g/t	105 g/t
	ATT004	Spear 4	93	90	98		
	ATT005	Spear 5	151	145	143		

The new 1m average of 105g/t gold is Marmota's highest 1m intersection at Aurora Tank (now verified by 5 fresh speared samples, and some 20 assay tests), and exceeds our previous best intersection of 93 g/t located some 200m to the east.

For the combined 5m interval for 38m to 43m downhole, the average grade has again been verified by the QA/QC process and has also increased from 24 g/t to 27 g/t.

Hole ID	Easting (MGA94 z53)	Northing (MGA94 z53)	RL	Dip	Azimuth (Mag)	EOH Depth
18ATRC104	412051	6715782	177	-60	150	140

Interval	Calico Average	Spear1 (ave)	Spear2 (ave)	Spear3 (ave)	Spear4 (ave)	Spear5 (ave)	Original Au_g/t	NEW Ave Au_g/t
38-39m	91.45	103	60.7	136	94	146	88.80	105.19
39-40m	19.25	14.6	12.9	13.9	17.1	11.85	18.30	14.93
40-41m	7.96	5.74	6.3	6.08	6.8	6.01	6.75	6.48
41-42m	2.22	3.33	2.78	2.44	2.41	2.01	2.04	2.53
42-43m	5.85	1.59	4.21	4.82	3.28	3.58	5.76	3.89

## **TOP DRILL INTERSECTIONS PER STATE - AUSTRALIA - Q1 2019**





Gold was the most common commodity reported in the top exploration drilling updates across the Australian states. Precious metals and base metals were dominant across most states. Cobalt was reported in two top intersections; one from Queensland and one from Northern Territory. The intersections from projects in Tasmania were both from tin deposits. Note: Data includes the top three drill intersections from each state except in the case of Tasmania where only two projects released exploration drilling updates during the reporting period. Some drill intercepts contain multiple commodities therefore, numbers may not add up to the total.

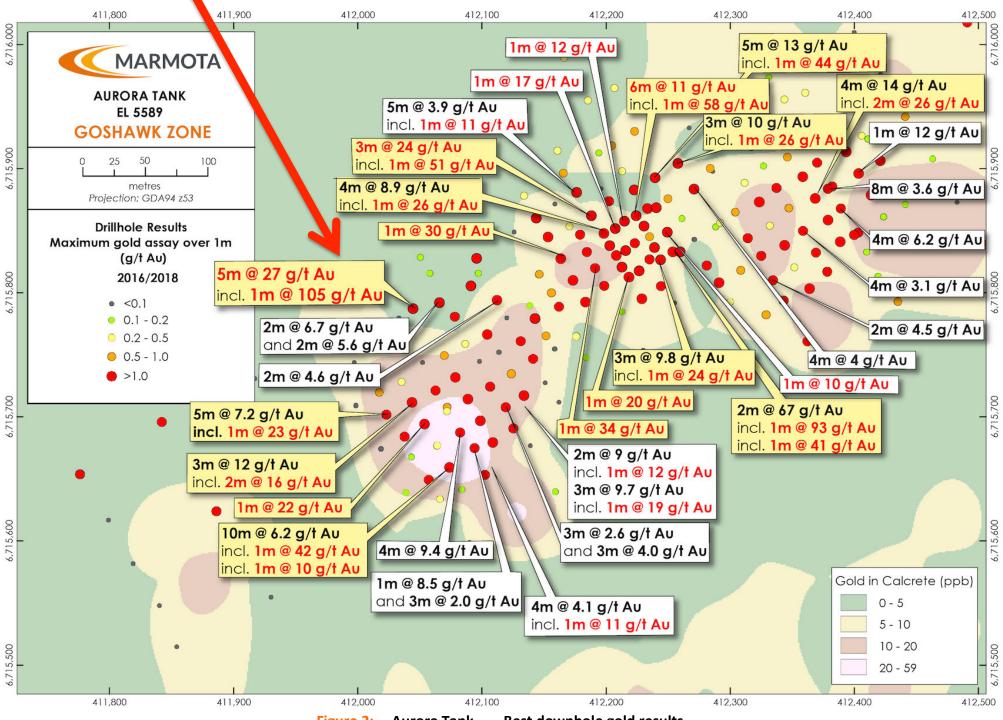


Figure 2: Aurora Tank – Best downhole gold results

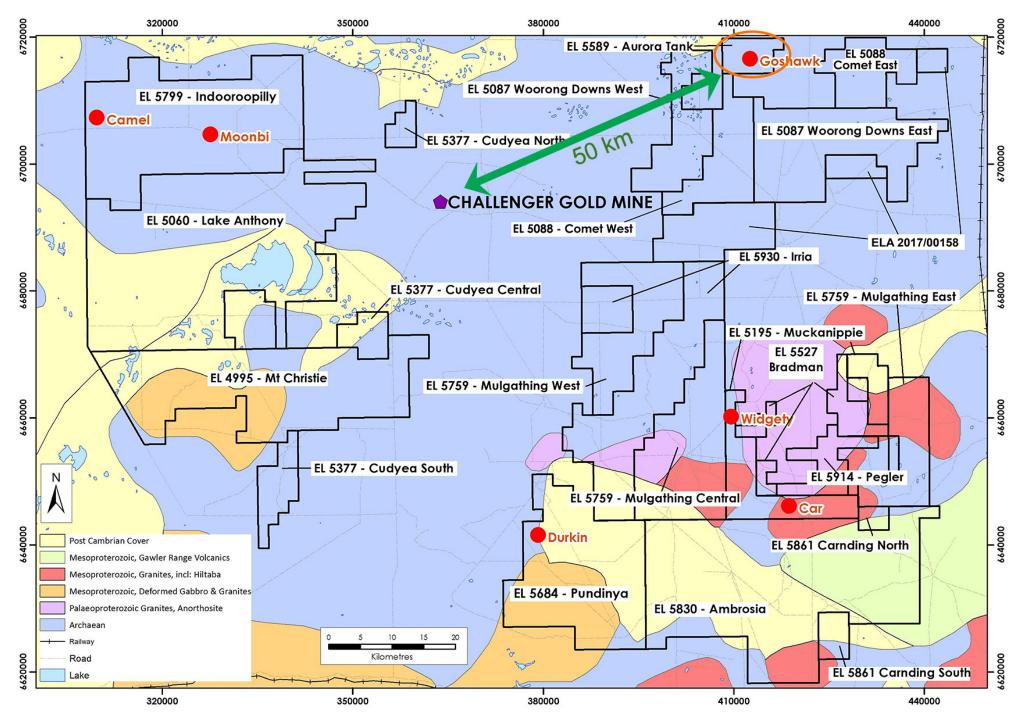


Figure 3: Marmota's Aurora Tank tenement and tenements around the Challenger Gold Mine

#### For further information, please contact:

#### **Marmota Limited**

Dr Colin Rose	Executive Chairman
Email:	colin@marmota.com.au

Unit 6 79-81 Brighton Road Glenelg SA 5045 ABN: 38 119 270 816 T: (08) 8294 0899 F: (08) 8376 8633 www.marmota.com.au

#### 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.

# Section 1 Sampling Techniques and Data (Criteria in this section apply to all succeeding sections)

Criteria	JORC Code explanation	Commentary
Sampling techniques	<ul> <li>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.</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 (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.</li> </ul>	<ul> <li>31 RC holes were drilled to collect samples from the Goshawk prospect area.</li> <li>Samples were collected at 1m intervals from the drilling cyclone and stored in separate bags at the drill site.</li> <li>Composite 4m samples were collected using a 50mm PVC tube 'spear' to collect representative samples from bags. Composite samples were an average weight of 2 kg which were pulverized to produce sub samples for lab assay (samples pulverized to produce a 25 g sample for Aqua Regia Digest and analysed by Inductively Coupled Mass Spectrometry and Inductively Coupled Plasma Optical (Atomic) Emission Spectrometry). A 40g sample was also produced for Lead Collection Fire Assay by ICP AES.</li> <li>Only laboratory assay results were used to compile the table of intersections that appears in the report.</li> <li>Additional 1m samples for re-assay were collected by spear sampling of bulk samples collected during drilling.</li> </ul>
Drilling techniques	<ul> <li>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).</li> </ul>	<ul> <li>Drill Method consists of Reverse Circulation Drilling. Hole diameters are 146.05 mm.</li> </ul>
Drill sample recovery	<ul> <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> <li>Drillholes and sample depths were recorded in hard copy format during drilling including description of lithology and sample intervals.</li> <li>Qualitative assessment of sample recovery and moisture content of drill samples was recorded.</li> <li>Sample recoveries were generally high, and moisture in samples minimal. In some instances, where ground water influx was high, wet/moist samples were collected.</li> <li>The sample system cyclone was cleaned at the end of each hole and as required to minimise up-hole and cross-hole contamination.</li> <li>No relationship is known to exist between sample recovery and grade, in part due to in-ground variation in grade. A potential bias due to loss/gain of fine/coarse material is not suspected. Drilling was halted between each interval to make sure the hole was cleared out before commencing the next interval.</li> </ul>

Criteria	JORC Code explanation	Commentary
Logging	<ul> <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> <li>All samples were geologically logged by the on-site geologist. The holes have not been geotechnically logged.</li> <li>Geological logging is qualitative.</li> <li>Chip trays containing 1 m geological subsamples were collected.</li> <li>100% of any reported intersections in this announcement have had geological logging completed.</li> </ul>
Sub-sampling techniques and sample preparation	<ul> <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> <li>Composite samples averaging 2 kg were collected for laboratory assay. Samples were collected with a 50mm tube by diagonally spearing individual samples within bags.</li> <li>1m samples were collected directly from the drill rig cyclone in individually numbered bags</li> <li>It is considered representative samples were collected after homogenizing of sample through drilling cyclone and unbiased spearing of sample preparation includes drying and pulverizing of submitted sample to target of p80 at 75 um.</li> <li>No samples checked for size after pulverizing failed to meet sizing target in the sample batches relevant to the report.</li> <li>Duplicate samples were introduced into the sample stream by the Company.</li> </ul>
Quality of assay data and laboratory tests	<ul> <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 (i.e. lack of bias) and precision have been established.</li> </ul>	<ul> <li>Bureau Veritas Minerals in Adelaide and Perth were used for analytical work. Samples were analysed in the following manner:</li> <li>Aqua Regia Digest. Analysed by Inductively Coupled Plasma Mass Spectrometry for Ag, As, Au, Cu and S.</li> <li>Lead Collection Fire Assay ICP-AES for Au</li> <li>For laboratory samples, the Company introduced QA/QC samples at a ratio of one QA/QC sample for every 20-30 drill samples. The laboratory introduced additional QA/QC samples (blanks, standards, checks) at a ratio of greater than 1 QA/QC sample for every 15 drill samples.</li> <li>Both the Company and laboratory introduced QA/QC samples indicate acceptable levels of accuracy and precision have been established.</li> <li>Duplicate samples were introduced into the sample stream by the Company, while the laboratory completed repeat assays on various samples.</li> <li>Standard samples were introduced into the sample stream by the Company, while the laboratory completed repeat assays also.</li> <li>Both Company and laboratory introduced duplicate samples indicate acceptable analytical accuracy and precision.</li> <li>Laboratory analytical charge sizes are standard sizes and</li> </ul>

Criteria	JORC Code explanation	Commentary
Verification of sampling and assaying Location of data points	<ul> <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> <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> <li>considered adequate for the material being assayed.</li> <li>A Company geologist has checked the calculation of the quoted intersections in addition to the Competent Person.</li> <li>No twinned holes were drilled in the program.</li> <li>No adjustments have been made to the assay data.</li> <li>Drill hole coordinate information was collected using an RTX DGPS system with an autonomous accuracy of +/- 2.5 centimetres utilising GDA 94 Zone 53. Down hole surveys were undertaken at approximately 30m intervals.</li> <li>Area is proximately flat lying and topographic control uses SRTM 90 DEM.</li> </ul>
Data spacing and distribution	<ul> <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> <li>Holes were located to follow up specific geological and mineralisation targets.</li> <li>Drill hole spacing is irregular as indicated in Appendix 2</li> <li>Reconnaissance holes based on Biogeochemical Au Targets were placed in optimal locations to test these targets.</li> </ul>
Orientation of data in relation to geological structure	<ul> <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> <li>Drill lines were orientated to cover previously drilled mineralisation and traverses crossed the width of the mineralised zone. Therefore a sampling bias should not have occurred.</li> </ul>
Sample security	• The measures taken to ensure sample security.	<ul> <li>Company staff collected all laboratory samples.</li> <li>Samples submitted to the laboratory were transported and delivered by Company staff.</li> </ul>
Audits or reviews	<ul> <li>The results of any audits or reviews of sampling techniques and data.</li> </ul>	<ul> <li>No audit of data has been completed to date.</li> </ul>

### **Section 2 Reporting of Exploration Results**

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

Criteria	JORC Code explanation	Commentary
<i>Mineral tenement and land tenure status</i>	<ul> <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> <li>Aurora Tank (EL 5589) is 100% owned by Marmota Limited. EL 5589 is located approximately 100 km southwest of Coober Pedy in South Australia.</li> <li>There are no third party agreements, non-government royalties, historical sites or environmental issues.</li> <li>Exploration is conducted within lands of the Antakirinja Matu- Yankunytjatjara Native Title Determination Area.</li> <li>The tenement is in good standing.</li> </ul>
Exploration done by other parties	Acknowledgment and appraisal of exploration by other parties.	<ul> <li>Exploration in the Commonwealth Hill region has been carried out by a number of exploration companies previously including;</li> <li>Kennecott Explorations (Australia) Pty Ltd (1968-69)</li> <li>Dampier Mining Co. Ltd (1978-79)</li> <li>Afmeco Pty Ltd (1980-83)</li> <li>Stockdale Prospecting Ltd (1986-87)</li> <li>SADME (1996-97)</li> <li>Minotaur Gold NL (1993-99)</li> <li>Redport Ltd (1997-2002)</li> <li>Apollo Minerals (2013-15)</li> </ul>
Geology	• Deposit type, geological setting and style of mineralisation.	<ul> <li>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.</li> <li>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.</li> </ul>
Drill hole Information	<ul> <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> <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> <li>The required information on drill holes is incorporated into Appendix 2 to the ASX Release.</li> </ul>

Criteria	JORC Code explanation	Commentary
Data aggregation methods	<ul> <li>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.</li> <li>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.</li> <li>The assumptions used for any reporting of metal equivalent values should be clearly stated.</li> </ul>	<ul> <li>Any intersections are calculated by simple averaging of 4 m composite samples.</li> <li>Where aggregated intercepts are presented in the report, they may include shorter lengths of high-grade mineralisation; these shorter lengths are also tabulated.</li> <li>No metal equivalents are reported.</li> </ul>
Relationship between mineralisatio n widths and intercept lengths	<ul> <li>These relationships are particularly important in the reporting of Exploration Results.</li> <li>If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.</li> <li>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').</li> </ul>	<ul> <li>Drill coverage is considered sufficient to establish approximate true widths due the current geological understanding of mineralisation dip and strike</li> <li>Mineralisation intersections are downhole lengths; exact true widths are unknown but are similar to the intersection lengths as the mineralised zones are approximately normal to hole inclinations.</li> </ul>
Diagrams	<ul> <li>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.</li> </ul>	See Figures in release attached.
Balanced reporting	<ul> <li>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.</li> </ul>	<ul> <li>A cut-off grade of 1.0g/t (1000 ppb) gold was applied in reviewing assay results and deemed to be appropriate at this stage in reporting of exploration results.</li> <li>Reporting is considered balanced.</li> </ul>
Other substantive exploration data	<ul> <li>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.</li> </ul>	See attached ASX Release. Geological observations are included in that report.
Further work	<ul> <li>The nature and scale of planned further work (e.g. tests for lateral extensions or depth extensions or large-scale step-out drilling).</li> <li>Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.</li> </ul>	<ul> <li>See attached release.</li> <li>Marmota is currently reviewing results received to date from this drilling campaign and considering additional work programs including resampling mineralised zones at 1m intervals and additional infill drilling.</li> </ul>