

## Widgety Drilling Results

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

### Key Points

- Assay results from the Widgety drilling program have been received
- No significant gold occurrences were intersected at Widgety
- Gold occurrences were associated with silver and quartz veining
- Assay results from the company's priority Westpoint Hill gold-in-calcrete program are expected soon, in early February 2016.

### Background

- Widgety prospect is located 50km SE of the Challenger gold mine [ see [Figure 5](#) ].
- In November 2015, a geophysicist's review identified multiple key target areas for the drilling program, based on ground magnetic and gravity surveys.
- In December, Marmota completed a RC drilling program with 1,652 metres drilled, testing 3 areas of interest identified in the geophysicist review. [ see [Figures 1 and 2](#) ]

### Drilling Results

The Widgety drilling program consisted of 29 angled RC holes with lengths varying from 50 to 102 metres [ see [Table 1](#) for details of drill collar locations and other details and [Figure 3](#) for a map view of locations ].

29 holes were drilled to test 3 separate areas [ see [Figure 2](#) below ]:

- Mag anomaly to the North (5 holes), and mag anomaly to the South (2 holes): the program to both the north and south areas did not have the benefit of refinement via gold-in-calcrete testing, as the Marmota infill calcrete sampling program did not extend to either of these areas.
- Central zone: this area was the subject of calcrete programs; that program yielded a number of clusters of gold-in-calcrete anomalies exceeding 20ppb, but no sharply defined 'hot zone'.

*Results:* 3 metre composite samples were assayed for 49 elements including gold, with the focus being on the gold occurrences. The best occurrence was 70ppb Au in hole WRC0009 at 30-33 metres. Details of gold occurrences greater than 20ppb are set out in [Table 2](#) below.

Early analysis of the assay results coupled with the geological interpretations of the drilling chips has shown gold associated with smoky quartz chips. In Traverse 1 (WRC0001 – WRC0007) there were areas of elevated gold correlating with increased quartz fragment size and frequency indicating gold association with quartz veining. Low order silver readings

accompany the gold and quartz veining and in some holes without any gold occurrences. Silver occurs as a halo or indicator mineral. See Figure 3 below for a cross section of Traverse 1 matched to the gold in calcrete occurrences.

More technical details regarding the drilling program are set out in the attached JORC Code Table 1 report.

**Summary**

Marmota's Widgety program has served its purpose of testing and providing direction, and has been carried out at relatively low cost. While the source of the anomaly at Widgety has not been located, the Board considers that Marmota has far better opportunities to pursue. In particular, the Board looks forward to the release of assay results from the priority project at Westpoint Hill, due soon (early February).

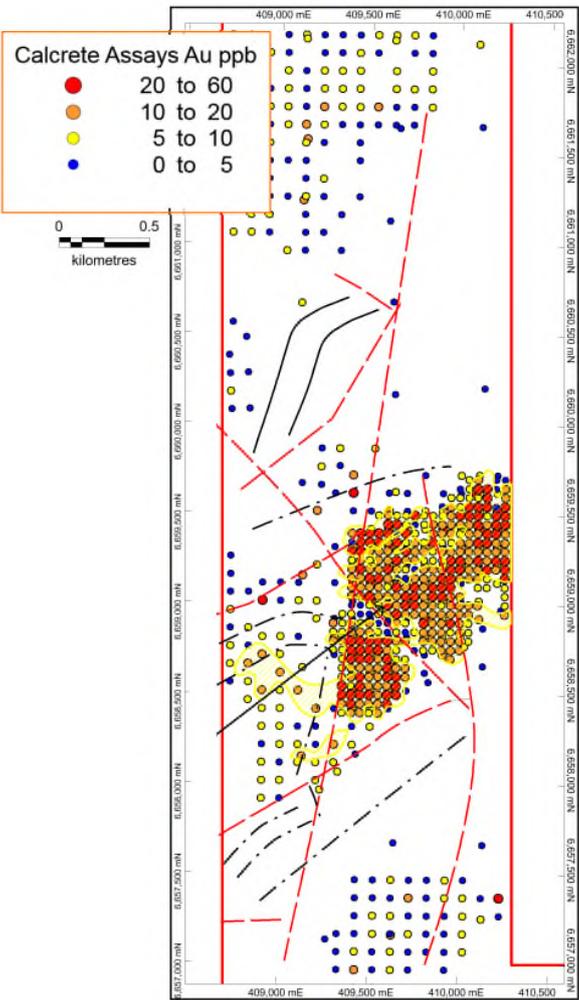


Figure 1: Marmota gold-in-calcrete sampling

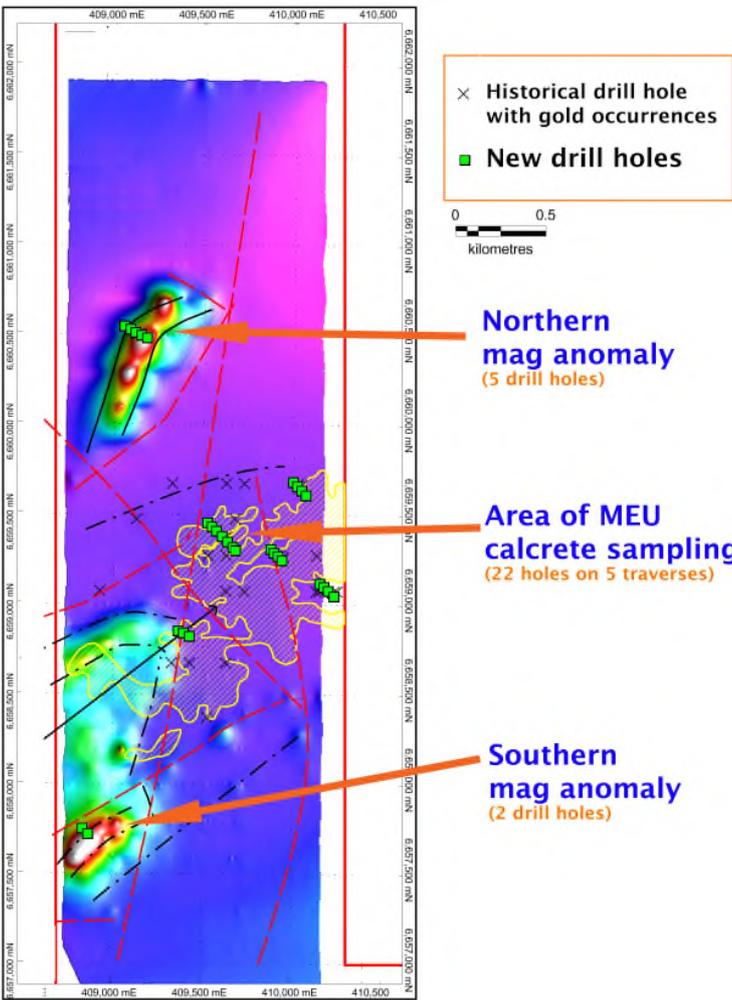


Figure 2: Higher-resolution magnetic survey highlighted additional targets, to both the North and South

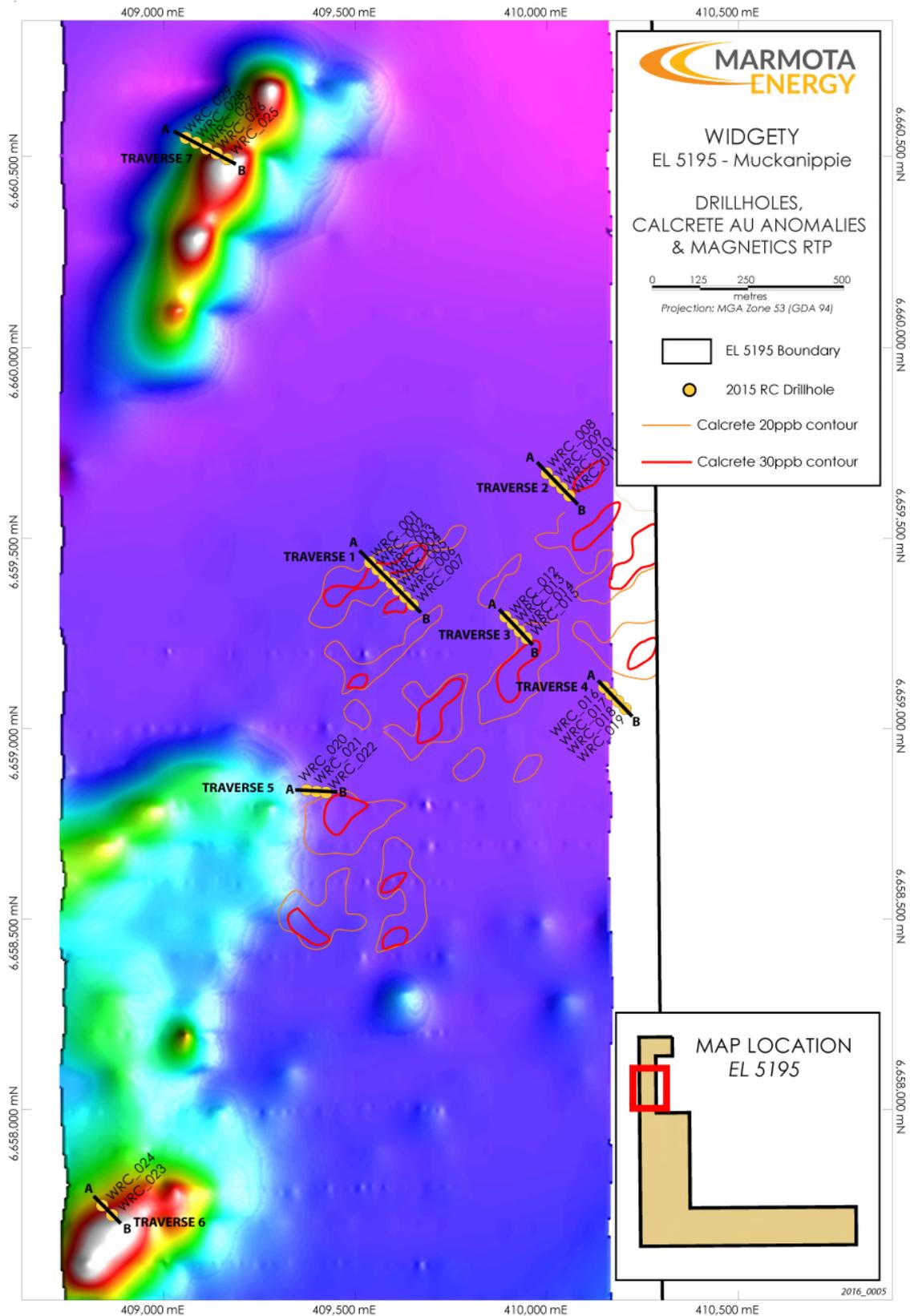


Figure 3: Drill hole locations and Traverses shown against the higher-resolution magnetic survey and gold in calcrete anomalies

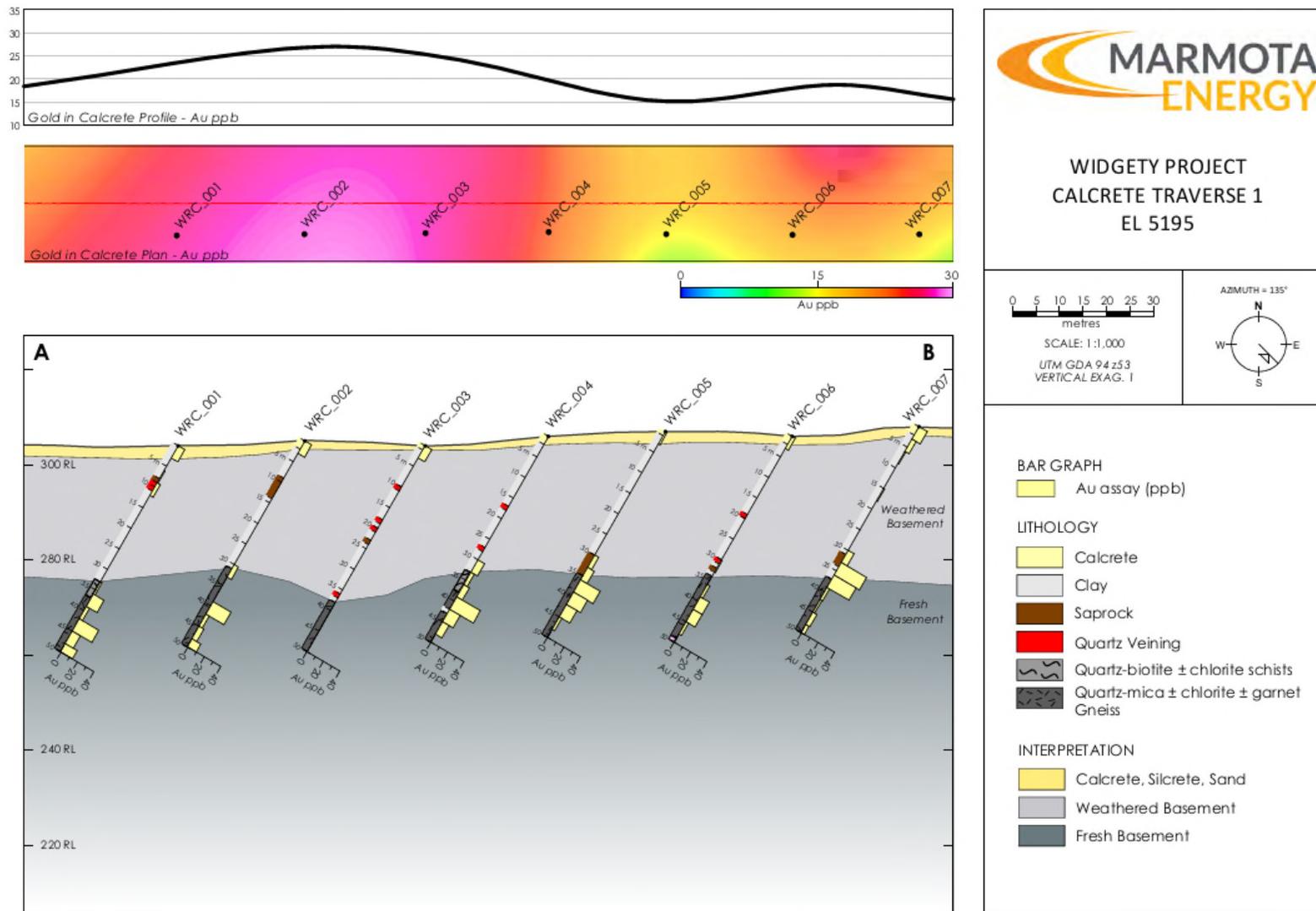


Figure 4: Cross section of Traverse 1 showing gold occurrences and lithology encountered by the drill holes, mapped against the gold in calcrete sampling results across the Traverse

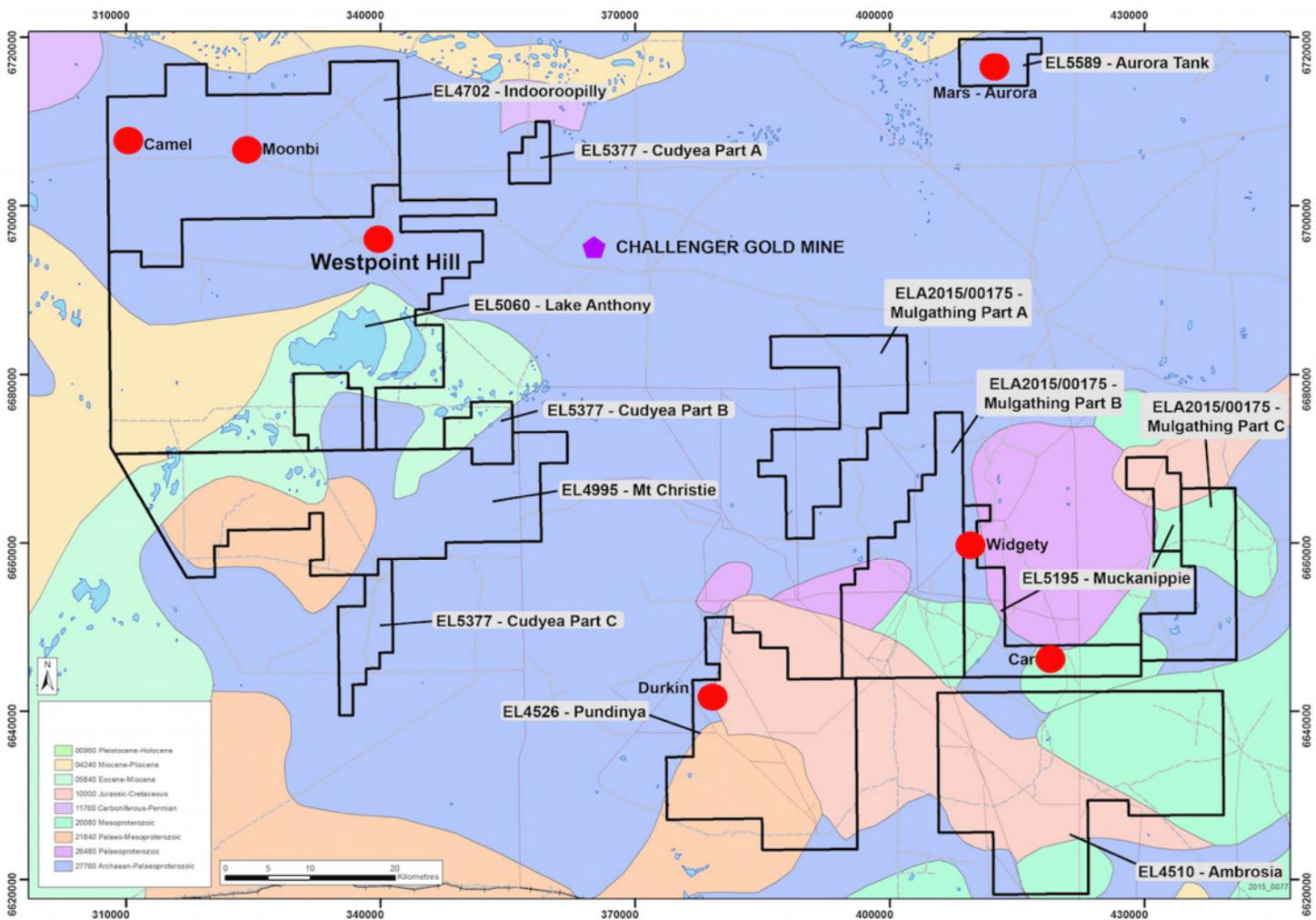


Figure 5: Marmota's Gawler Craton Gold Project, showing the location of Westpoint Hill and Widgety

# TABLES

**Table 1:** Drill hole locations

Hole ID	Easting	Northing	Elevation	Azimuth	Inclination	Drill Depth m
WRC_001	409,539	6,659,436	304	315	-60	50.0
WRC_002	409,558	6,659,417	305	315	-60	50.0
WRC_003	409,576	6,659,399	304	315	-60	50.0
WRC_004	409,595	6,659,381	306	315	-60	50.0
WRC_005	409,612	6,659,363	307	315	-60	50.0
WRC_006	409,631	6,659,344	306	315	-60	50.0
WRC_007	409,650	6,659,325	308	315	-60	50.0
WRC_008	410,000	6,659,671	296	315	-60	50.0
WRC_009	410,020	6,659,650	297	315	-60	50.0
WRC_010	410,040	6,659,632	297	315	-60	50.0
WRC_011	410,059	6,659,612	298	315	-60	51.0
WRC_012	409,892	6,659,293	308	315	-60	50.0
WRC_013	409,911	6,659,274	308	315	-60	51.0
WRC_014	409,929	6,659,255	308	315	-60	50.0
WRC_015	409,947	6,659,237	309	315	-60	50.0
WRC_016	410,150	6,659,109	312	315	-60	50.0
WRC_017	410,168	6,659,091	313	315	-60	50.0
WRC_018	410,186	6,659,073	313	315	-60	50.0
WRC_019	410,205	6,659,053	314	315	-60	50.0
WRC_020	409,373	6,658,839	323	270	-60	50.0
WRC_021	409,399	6,658,835	324	270	-60	50.0
WRC_022	409,424	6,658,832	323	270	-60	50.0
WRC_023	408,866	6,657,724	319	90	-60	70.0
WRC_024	408,840	6,657,749	318	90	-60	69.0
WRC_025	409,166	6,660,494	293	120	-60	60.0
WRC_026	409,139	6,660,509	292	120	-60	60.0
WRC_027	409,112	6,660,522	292	120	-60	102.0
WRC_028	409,085	6,660,537	292	120	-60	90.0
WRC_029	409,058	6,660,550	292	120	-60	91.0

**Table 2:** Anomalous gold results (3 metre composite samples > 20ppb gold)

Tenement: Muckanippie			Au	Ag
Hole ID	From	To	ppb	ppm
WRC001	42	45	24	0.1
WRC002	39	42	22	0.06
WRC004	39	42	29	0.07
WRC005	36	39	24	0.12
WRC007	33	36	31	0.2
WRC007	36	39	27	0.22
WRC009	30	33	70	X
WRC009	33	36	22	X
WRC016	30	33	27	X
WRC0028	69	72	25	0.09
WRC0028	78	81	33	0.17

#### **Competent Persons Statement**

*The information in this release that relates to Exploration Results and Mineral Resources is based on information compiled by Dan Gray as Senior Project Geologist of Marmota Energy Limited who is a member of the Australasian Institute of Geoscientists. 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 for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. Mr Gray consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.*

For further information, please contact:

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#### **About Marmota Energy Limited**

Marmota Energy Limited (ASX: MEU) is a South Australian mining exploration company, focused on gold, copper and uranium. Gold exploration is centered 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 cornerstone copper project is based at the Melton project on the Yorke Peninsula. The Company's largest uranium project is at Junction Dam adjacent to the Honeymoon mine. For more information, please visit: [www.marmotaenergy.com.au](http://www.marmotaenergy.com.au)

# 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
<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>Reverse Circulation (RC) drilling was used to obtain 3m grab samples of an average weight of 1.0 kg which were pulverised to produce sub samples for lab assay (samples pulverised 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).</li> <li>3 metre composite samples were undertaken,</li> <li>Only laboratory assay results were used to compile the table of intersections that appear in the report.</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>Drilling technique used was reverse circulation (RC)</li> <li>Hole diameters were 90mm</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>Qualitative assessment of sample recovery and moisture content of drill samples is recorded.</li> <li>Sample system cyclone 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.</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 samples had preliminary geological logging completed by the on-site geologist. Once samples were returned from site, detailed geological logging was undertaken The holes have not been geotechnically logged.</li> <li>Geological logging is qualitative.</li> <li>Chip trays containing 1m geological subsamples will be photographed at the completion of the exploration program.</li> <li>100% of any reported intersections in this announcement have had detailed</li> </ul>

Criteria	JORC Code explanation	Commentary
<b>Sub-sampling techniques and sample preparation</b>	<ul style="list-style-type: none"> <li>• <i>If core, whether cut or sawn and whether quarter, half or all core taken.</i></li> <li>• <i>If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.</i></li> <li>• <i>For all sample types, the nature, quality and appropriateness of the sample preparation technique.</i></li> <li>• <i>Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.</i></li> <li>• <i>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.</i></li> <li>• <i>Whether sample sizes are appropriate to the grain size of the material being sampled.</i></li> </ul>	<p>geological logging completed.</p> <ul style="list-style-type: none"> <li>• Samples averaging 1kg were collected for laboratory assay using a trowel.</li> <li>• Dry samples were homogenised by mixing prior to sampling.</li> <li>• Laboratory sample preparation includes drying and pulverising of submitted sample to target of p80 at 75 um.</li> <li>• No samples checked for size after pulverising 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, while the laboratory completed double assays on various samples.</li> <li>• Standard samples were introduced into the sample stream by the Company, while the laboratory completed standard assays also.</li> <li>• Both Company and laboratory introduced duplicate samples and indicate acceptable analytical accuracy.</li> <li>• Laboratory analytical charge sizes are standard sizes and considered adequate for the material being assayed.</li> </ul>
<b>Quality of assay data and laboratory tests</b>	<ul style="list-style-type: none"> <li>• <i>The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.</i></li> <li>• <i>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.</i></li> <li>• <i>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.</i></li> </ul>	<ul style="list-style-type: none"> <li>• A certified and accredited global laboratory (Intertek Genalysis) was used for all assays.</li> <li>• Samples from the Widgety drilling program were subject to analysis by ARU25/MS; 25gram Aqua Regia digest, unfiltered. Analysed by Inductively Coupled Plasma Mass Spectrometry and ARU25/OE; 25gram Aqua Regia digest, unfiltered. Analysed by Inductively Coupled Plasma Optical (Atomic) Emission Spectrometry.</li> <li>• Internal certified laboratory QA/QC is undertaken by Intertek Genalysis.</li> <li>• For laboratory samples the Company introduced QA/QC samples at a ratio of one QA/QC sample for every 15 drill samples. The laboratory introduced additional QA/QC samples (blanks, standards, checks) at a ratio of greater than 1 QA/QC sample for every 10 drill samples.</li> <li>• Both the Company introduced and laboratory introduced QA/QC samples indicate acceptable levels of accuracy and precision have been established.</li> <li>• No additional standards, blanks or field duplicates were considered necessary for this drilling program.</li> </ul>

Criteria	JORC Code explanation	Commentary
<b>Verification of sampling and assaying</b>	<ul style="list-style-type: none"> <li>• <i>The verification of significant intersections by either independent or alternative company personnel.</i></li> <li>• <i>The use of twinned holes.</i></li> <li>• <i>Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.</i></li> <li>• <i>Discuss any adjustment to assay data.</i></li> </ul>	<ul style="list-style-type: none"> <li>• Field data is captured on field sheets and transferred to digital medium at the end of each day. All data is managed in-house by Marmota Energy.</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 the subject of the report.</li> <li>• No adjustments have been made to the assay data.</li> </ul>
<b>Location of data points</b>	<ul style="list-style-type: none"> <li>• <i>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.</i></li> <li>• <i>Specification of the grid system used.</i></li> <li>• <i>Quality and adequacy of topographic control.</i></li> </ul>	<ul style="list-style-type: none"> <li>• All drilling locations are located using hand held GPS with an accuracy generally within +/- 5m. All coordinates are recorded in GDA94, Zone 53.</li> </ul>
<b>Data spacing and distribution</b>	<ul style="list-style-type: none"> <li>• <i>Data spacing for reporting of Exploration Results.</i></li> <li>• <i>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.</i></li> <li>• <i>Whether sample compositing has been applied.</i></li> </ul>	<ul style="list-style-type: none"> <li>• Drillholes either targeted a geophysical anomaly or were advanced along traverses set up perpendicular to the orientation of the geochemical anomaly.</li> <li>• Drillhole spacing along traverses was approximately 25m</li> <li>• Receipt of further analytical data is required before it will be possible to assess whether the drill spacings are adequate to establish geological grade and continuity.</li> </ul>
<b>Orientation of data in relation to geological structure</b>	<ul style="list-style-type: none"> <li>• <i>Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.</i></li> <li>• <i>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.</i></li> </ul>	<ul style="list-style-type: none"> <li>• Drill lines were orientated to cover a NE-SW trending auger geochemical target and geophysical anomaly and traverses crossed the width of the geophysical anomaly, therefore a sampling bias should not have occurred.</li> </ul>
<b>Sample security</b>	<ul style="list-style-type: none"> <li>• <i>The measures taken to ensure sample security.</i></li> </ul>	<ul style="list-style-type: none"> <li>• Each sample was put into individually numbered calico bags which were tied and placed into cable tied polyweave bags.</li> <li>• Samples remained at the remote field camps with Marmota staff until Marmota staff returned to Adelaide and the samples dropped off at the Intertek Genalysis Laboratory in Wingfield, Adelaide.</li> </ul>
<b>Audits or reviews</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 or reviews have been undertaken.</li> </ul>

## 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>Muckanippie (EL5195) is 100% owned by Marmota Energy Limited.</li> <li>The project is located in the Gawler Craton of South Australia.</li> <li>There are no third party agreements, no government royalties, historical sites or environmental issues.</li> <li>Underlying land title is Crown Lease.</li> <li>EL5195 is in good standing.</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>Marmota has reviewed past exploration data over the region. The region in which EL5195 is located has been the subject of mineral exploration in the past by various companies including Normandy as well as regional exploration drilling conducted by the South Australian Department of Mines and Energy.</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>Style of mineralisation in the region is considered to be Challenger Style and Tarcoola Style gold 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>The required information on drill holes is incorporated into Table 1 of the report.</li> </ul>
<b>Data aggregation methods</b>	<ul style="list-style-type: none"> <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 style="list-style-type: none"> <li>Any intersections reported are calculated by simple averaging of 3m assays.</li> <li>Where aggregated intercepts presented in the report include shorter lengths of high grade mineralisation, these shorter lengths are also tabulated.</li> <li>No metal equivalents are reported.</li> </ul>
<b>Relationship between mineralisation</b>	<ul style="list-style-type: none"> <li>These relationships are particularly important in the reporting of Exploration Results.</li> <li>If the geometry of the mineralisation with</li> </ul>	<ul style="list-style-type: none"> <li>Drill coverage is not currently considered sufficient to establish true widths due to uncertainty regarding</li> </ul>

Criteria	JORC Code explanation	Commentary
<b>widths and intercept lengths</b>	<p><i>respect to the drill hole angle is known, its nature should be reported.</i></p> <ul style="list-style-type: none"> <li><i>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').</i></li> </ul>	<p>mineralisation dip and strike.</p> <ul style="list-style-type: none"> <li>The results in Table 2 of the report show intersections that are downhole lengths and true width is unknown.</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>See figures in release attached.</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>Results in Table 2 of the report show downhole width of intersections of individual 3m composite samples</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>See attached release. Geological observations are included in the report.</li> </ul>
<b>Further work</b>	<ul style="list-style-type: none"> <li><i>The nature and scale of planned further work (eg 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>See attached release.</li> </ul>