

04 October 2023

ASX RELEASE

# GRAVITY SURVEY IDENTIFIES NEW HIGH DENSITY STRUCTURES AT THE REDLINGS REE PROJECT

- Ground gravity survey completed and successfully identifies high-density pipe-like structures.
- Gravity data highlights NNE trending, pipe-like structures which significantly enhances the exploration model.
- The pipe-like structures are interpreted to be the primary source of surficial values of the REE mineralisation with previous results up to 7,503ppm TREO.

Marquee Resources Limited ("Marquee" or "the Company") (ASX:MQR) is pleased to announce that it has completed a 1,907 station ground gravity survey at the Company's Redlings Rare Earth Element Project ("Redlings" or "the Project"). The gravity survey was designed to test for deep-seated carbonatite intrusions and to identify the potential source of surficial rare earth element (REE) anomalism of up to 7,503ppm TREO previously encountered at the Project (Refer ASX announcement 18 May 2023).

Final data processing and 3D modelling has been completed with results of the survey highlighting a complex structural architecture intruded by dense bodies, which are interpreted to represent carbonatite pipes, extending to significant depths. The gravity survey focused on a ~4.9 km x 1.2 km geochemical anomaly to assist in interpreting the primary controls on surficial mineralisation. Although historical exploration has focused on NW trending structures, the gravity data has highlighted that the interpreted carbonatite pipes have a NNE trending orientation and the exploration model needs to be refined and shifted to focus on these NNE trending structures. Company geologists have mapped REE-bearing dykes/veins with varying structural orientations which may represent late-stage carbonatite cone sheets or ring dykes. Following the completion of the gravity survey, further mapping and auger geochemistry is planned with deeper reverse circulation drilling to follow. The Company aims to fully test the potential of the Project to host an economic REE mineral resource.

#### **Executive Chairman Comment:**

Marquee Executive Chairman, Mr Charles Thomas, commented:

"This infill gravity survey has significantly improved our understanding of the Redlings REE Project. For the first time, we believe we have possibly identified the source of the surficial mineralisation that we have encountered on our last few exploration campaigns at the Project."

"Acquisition of this new geophysical datasets is a significant next step in unlocking the potential of the geology within the Redlings REE Project area. An exciting pipeline of new exploration activities will now follow over the next 12 months at the Project. I look forward to updating all our shareholders and the wider market as we make further progress at this exciting Project."





Figure 1: Base Image - Greyscale TMI image overlain with RGB Bouguer Anomaly image. Top Left – 0.02, 0.03 & 0.05 g/cc inversion shells, Top Right – auger geochemistry results, Bottom Left – density inversion shells and auger geochemistry results.



 Interpreted Carbonatite Pipes

 Output
 Output
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Figure 2: Long Section of the Redlings 3D Gravity Inversion Model highlighting interpreted carbonatite pipes.



Figure 3: Gravity inversion model of the Redlings Project and potential carbonatite corridors.



#### The Redlings Rare Earth Element Project

The Redlings Project (formerly called Jungle Well) is 100% owned by Marquee and comprises exploration licenses E 37/1311 and E 37/1376 (Figure 4). The Project is located approximately 40km west of Leonora, and 77km north of Menzies. Lynas Corporation's Mt Weld Project lies approximately 150km east of the project. The Redlings Project covers an area of approximately 108km<sup>2</sup> of tenure with historical rock-chip samples up to 7.8% TREO (refer to ASX announcement on 11 November 2020).

The Redlings Project is situated over a NNW trending high magnetic biotite-hornblende monzogranite granite that has intruded into the surrounding granite pluton. A series of NW trending faults run obliquely through the granite which were targeted historically for REE bearing mafic dykes within the Project. This was due to the identification of the Redlings dyke identified during prior exploration activities. The Company has greatly enhanced the understanding of the Redlings Project through geophysics, geochemistry and drilling and carbonatite intrusions are now interpreted to strike NNE and the Company will use these recent advancements to identify targets for the discovery of additional REE bearing dykes.



Figure 4: Location of the Redlings Project.



#### COMPETENT PERSON STATEMENT

The information in this report which relates to Exploration Results is based on information compiled by Dr. James Warren, a Competent Person who is a member of the Australian Institute of Geoscientists. Dr. Warren is the Chief Technical Officer of Marquee Resources Limited. Dr. Warren has sufficient experience relevant to the style of mineralisation and type of deposit under consideration and to the activity he is undertaking to qualify as a Competent Person as defined in the 2012 Edition of the "Australian Code of Reporting of Exploration Results, Mineral Resources and Ore Reserves". Dr. Warren consents to the inclusion in this report of the matters based on the information in the form and context in which it appears.

#### **Forward Looking Statements**

Statements contained in this release, particularly those regarding possible or assumed future performance, costs, dividends, production levels or rates, prices, resources, reserves or potential growth of Marquee Resources Limited, are, or may be, forward looking statements. Such statements relate to future events and expectations and, as such, involve known and unknown risks and uncertainties. Actual results and developments may differ materially from those expressed or implied by these forward-looking statements depending on a variety of factors.

This ASX Release has been approved by the Board of Directors.

Charles Thomas

Charles Thomas – Executive Chairman Marquee Resources info@marqueeresources.com.au



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

### 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 (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> <li>A ground gravity survey was completed by Atlas Geophysics which consisted of 1,907 survey stations.</li> <li>Survey spacing was 200m x 200m over the central part of the project and 400 x 400m around the periphery.</li> <li>Southern Geoscience Consultants (SGC) completed Enhanced Gravity Data Processing and Unconstrained 3D Gravity Inversion Models.</li> </ul>
Drilling techniques	<ul> <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>	No drilling completed
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</li> </ul>	No drilling completed



Criteria	JORC Code explanation	Commentary
	between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.	
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>	No drilling completed
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 sample presentative of the in site of the sample size same sample same same sample same same same sample sample same same sample same same samp</li></ul>	No drilling completed
Quality of assay data and laboratory tests	<ul> <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</i></li> </ul>	No drilling completed



Criteria	JORC Code explanation	Commentary
	established.	
Verification of sampling and assaying	<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> </ul>	No drilling completed
Location of data points	<ul> <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>Gravity survey stations were located using a differential GPS with accuracy of +/- 1cm.</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>	Not applicable
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>	Not applicable
Sample security	<ul> <li>The measures taken to ensure sample security.</li> </ul>	Not applicable.
Audits or reviews	• The results of any audits or reviews of sampling techniques and data.	Southern Geoscience Consultants reviewed and processed data.