

## Clayton Valley Lithium Project To Enter Exploration Phase

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### HIGHLIGHTS

- North American geological consultants Kangari Consulting LLC have completed an extensive review of Marquee Resources Ltd's Clayton Valley project and surrounding area that has been subject to significant recent exploration.
- Marquee will now look to commence a two-phase exploration program at Clayton Valley consisting of detailed geological mapping and drilling.
- The project is approximately 3.5 hours from Tesla's Gigafactory Number 1, a large lithium-ion battery factory, and sits on a gravity high interpreted to represent a graben (uplifted basin sediments) associated with normal faulting adjacent to Pure Energy Minerals (TSXV:PE) current mineral resource.
- Results from the initial drilling at MQR's project have confirmed the presence of lithium brine and a lithium hosting horizon on the Western side of the property and has proven that the basin extends further east than previously considered.
- This information, combined with the surface sampling results to the north in the Spearmint Resources (previously Matica) claims, shows a potential strong economic lithium mineralisation on the Marquee claims.
- Further to the above, there is potential for the lithium bearing aquifers, present on the Pure Energy Minerals property, to extend laterally onto the MQR claims at depth with further drilling by Marquee planned to test this theory.
- The Clayton Valley project area covers approximately ~12sqkm of claims endowed with both lithium-rich brines and clays and is located in the southern portion of the Clayton Valley Basin proximal to the Silver Peak lithium mine which is the only producing lithium mine in North America and is owned by the world's largest lithium producer, Albemarle.
- The project is located 60kms south of Marquee's recent Kibby Basin Lithium Project acquisition and 10km east of ASX-listed Ioneer Ltd (ASX: INR) flagship Rhyolite Ridge Lithium-Boron Project, recently Joint Ventured with Sibanye Stillwater Limited.
- Marquee is targeting to have on-ground exploration being undertaken at four of its future metals projects across the globe, three in the Lithium sector.

Marquee Resources Limited (**Company** or **Marquee**) (ASX: MQR) is pleased to advise shareholders of the positive outcome from the recently commissioned geological review on its highly prospective Clayton Valley Lithium project, completed by experienced North American geological consultants Kangari Consulting LLC.

Marquee Executive Chairman, Mr Charles Thomas commented;

*“The Clayton Valley Lithium project is situated in a well-established location for lithium occurrences and the current buoyant nature of the Lithium market has enabled us to re-visit the potential of this project which is situated just kilometres from the only producing lithium mine in North America, Silver Peak, owned by the world’s largest Lithium producer, Albemarle.”*

*“We are excited to embark on the two-phase exploration program recommended by our independent consultants and plans are already underway to action this in conjunction with a drilling campaign on our newly acquired Kibby Basin Lithium Project.”*

*“The Kibby Basin Lithium Project sits in a well-known Lithium producing district and directly compliments our Clayton Valley Lithium Project. Not only is the Kibby Basin Lithium Project already permitted for drilling but more importantly it is fully permitted for water extraction for brine processing and production of lithium compounds.”*

*“This is a very important period for the Company and its shareholders and I re-iterate the board’s focus that by the end of the year I expect there will be on-ground exploration being undertaken at four of our future metals Projects across the globe.”*

### **Conclusions of the Clayton Valley review**

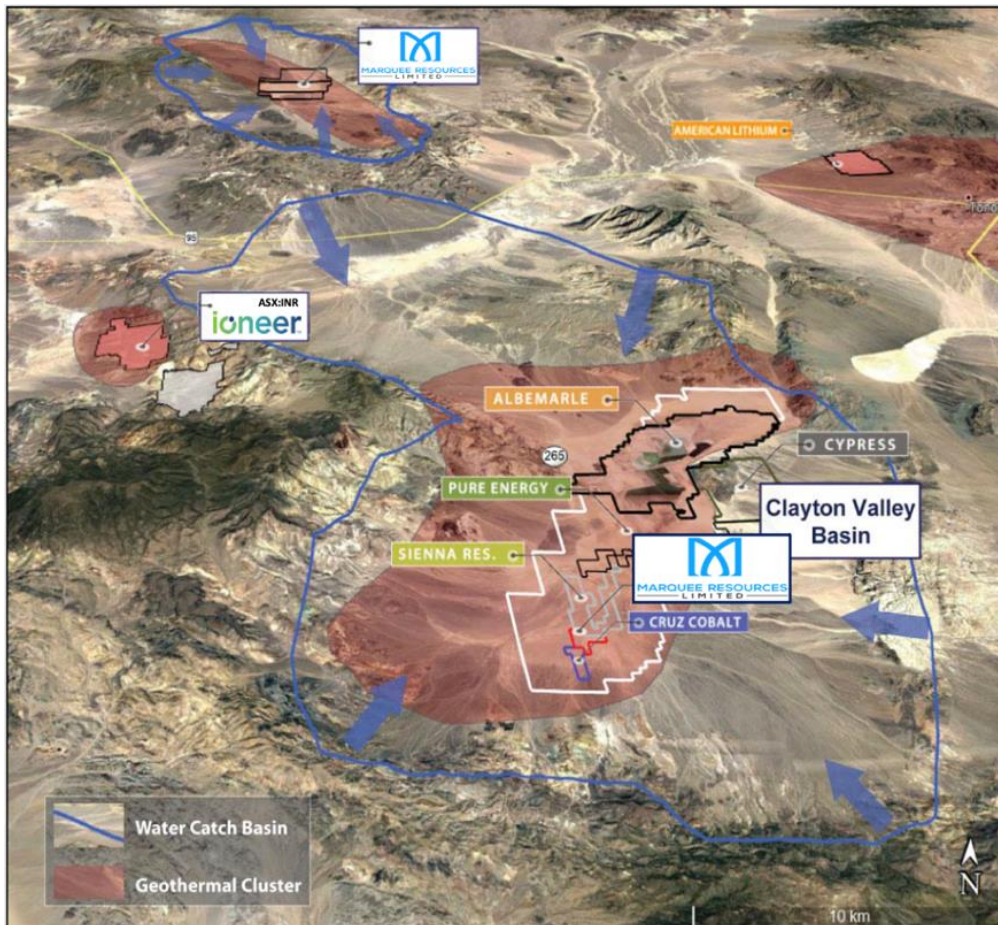
The company’s property lies on a gravity high which has the potential to represent a graben (uplifted basin sediments) formed as a result of normal faulting, to the east of Pure Energy’s current mineral resource.

Results from the Company’s initial drillhole (refer ASX release 26 September 2017) confirmed the presence of lithium brine and lithium hosting formation on the Western side of the property. Whilst numerous academic writings suggest that the Marquee Clayton Valley Lithium project sits on the eastern most edge of the Clayton Valley basin (capable of hosting lithium brines), drilling has proven that the basin extends further east than previously considered. This information, combined with the surface sampling results to the north in the Spearmint Resources claims, highlights the strong potential for economic lithium mineralisation on the Marquee claims.

The identification of the lithium hosting formation in the Marquee Clayton Valley claims is a critical observation and is key to the progression of the Project. As a result of this observation, it has been recommended that detailed geophysics and geological mapping is required to define the edge of the sub-basin and identify the lithium bearing tertiary volcanic source rocks.

Further to the above, there is potential for the lithium bearing aquifers present on the Pure Energy Minerals property to extend laterally onto the Marquee claims at depth and further drilling will be undertaken to confirm this theory.

## Project Location



Marquee Resources Clayton Valley Lithium Project is well suited to service the US domestic market with lithium brines exploited by scalable, staged development that can be expanded with increasing demand. The project is approximately 3.5 hours away from Tesla’s Gigafactory 1, a large lithium-ion battery factory.

The Clayton Valley project area covers approximately ~12sqkm of claims, recently identified to be endowed with both lithium-rich brines and clays, located at the south end of the Clayton Valley Basin and proximal to the only producing lithium mine in North America, Silver Peak, owned by the world’s largest Lithium producer, Albemarle.

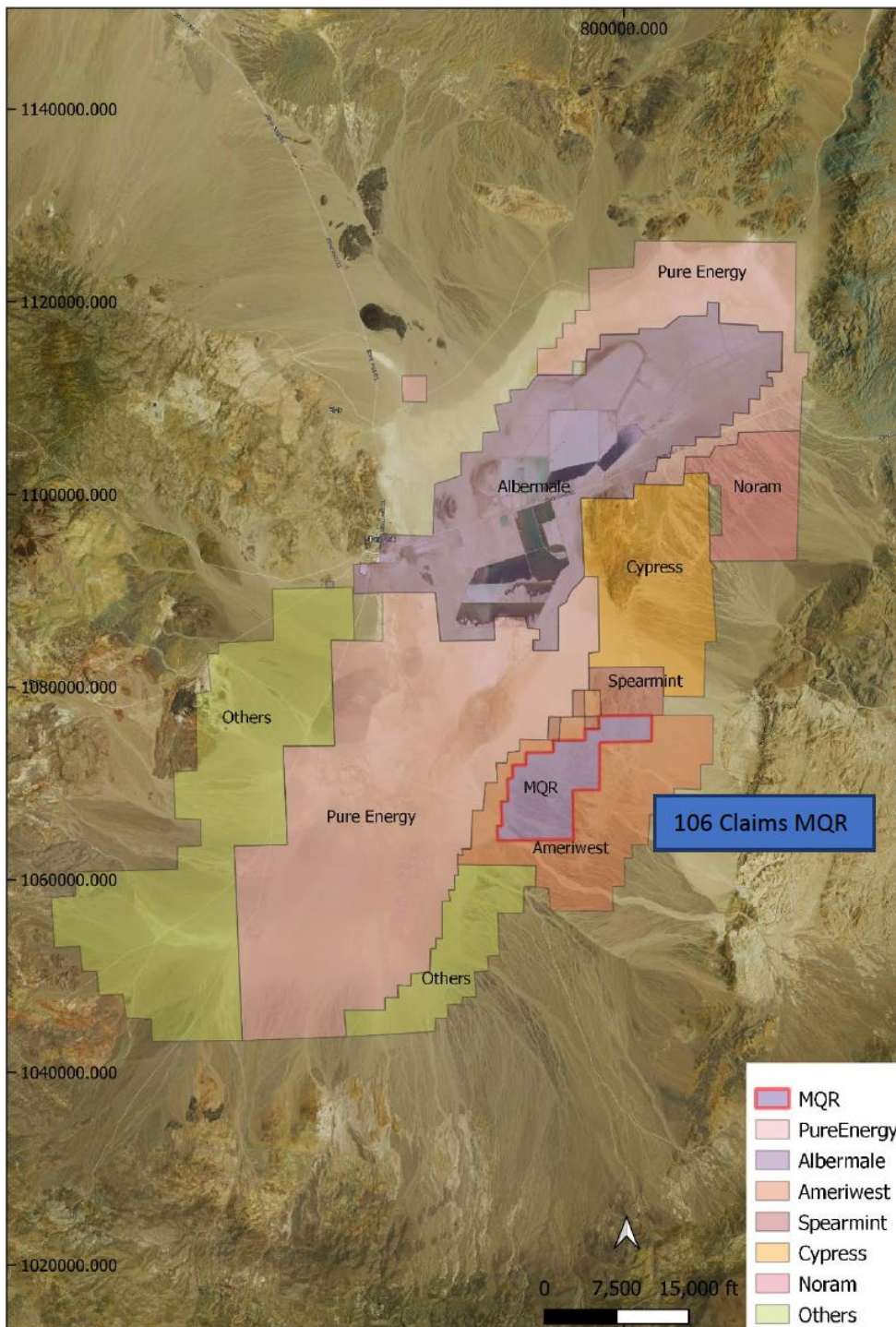
The project is also located 60kms south of Marquee’s recent, fully permitted and drill ready, Kibby Basin Lithium Project acquisition (refer MQR ASX release dated 4<sup>th</sup> Nov 2021) and 10km east of ASX-listed Ioneer Ltd (ASX: INR) flagship Rhyolite Ridge Lithium-Boron Project, recently Joint Ventured with Sibanye Stillwater Limited.

## Exploration at Adjacent Clayton Valley Tenements

Pure Energy Mineral’s property lies due west of the claims and sits in a gravity low within the main basin sediments. In contrast, data from the Spearmint Resources claims show abundant lithium at surface (on a gravity high) from recent drilling (refer release 5<sup>th</sup> February 2021 by Spearmint Resources).



Spearmint Resources have recently completed significant exploration aimed at advancing the McGee lithium project. Considerable drilling has been completed by Spearmint and an initial resource on the McGee project has been produced. With the recently identified geological similarities, MQR is encouraged that the MQR Clayton Valley permits could host economic lithium mineralisation in both claystones and brines. Additionally, south and east of the MQR Clayton Valley permits exploration activity is currently ongoing by AmeriWest Lithium who are targeting both claystone and lithium brine potential.



**MQR Clayton Valley Lithium Project Location in Esmeralda County, Nevada, USA**

## **Exploration Recommended**

### ***Phase-One***

Phase one of the exploration program is planned to focus on detailed geological mapping of the 106 licenses. This will assist the company in determining the surface expressions of the tertiary formations and that of the basin formations in order to further help drill hole targeting.

Geological mapping will be completed by a geologist with extensive knowledge of the area and understanding of basin geology. Phase one geological mapping is planned to be complemented with ground gravity geophysics surveys. Surveys are planned to be orientated in an east-west direction, perpendicular to the basin strike, and will define the depth and lateral extent of the recently interpreted sub-basin. Initial geophysics will outline the edge of the basin and identify basin bounding normal faults on the company's property. Closer spaced gravity surveys would then be conducted to further refine the basin margin.

### ***Phase-Two***

Phase two of the program is planned to focus on drilling key target areas identified during phase one exploration.

Phase two is planned to consist of Aircore ("AC") drilling and/or Sonic drilling and sampling depending on ground conditions and rig availability.

Sampling will be conducted to collect brines filtered from the host formations and downhole sampling of brines will be completed via submersible pumps at different times of the year to allow the company to record seasonal variation in the brine content.

Previous downhole sampling for lithium has been conducted on 10-foot intervals. It is Kangari's suggestion that this be increased to every one-metre intervals.

When testing brine samples with suspected lithium content, the following items will be tested:

- Total Dissolved Solids (TDS)
- Total Suspended Solids (TSS)
- pH
- Electrical Conductivity (EC)
- Density
- Total alkalinity
- Carbonates (CO<sub>3</sub> equivalent)
- Bicarbonates
- Chlorides
- Sulfates
- Ions - B, Ba, Ca, Fe, K, Li, Mg, Na, Si, Sr.

Returned sediment samples will be analysed using a total acid digest (total content) and weak acid digest (weakly bound content) and a water digest for soluble content.

Once holes have been drilled to completion, downhole gamma geophysics is planned to be used to create a 3D model of potentially lithium bearing formations which will be used to develop further drilling campaigns up to resource definition.

The Company will update the market once the appropriate geologists and contractors have been found to undertake the planned works.

### **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.



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