

## **MACARTHUR MINERALS STAKES NEW CLAIMS IN RAILROAD VALLEY, NEVADA WITH SURFACE GRADES UP TO 300 PPM LITHIUM**

**Macarthur Minerals Limited (TSX-V: MMS)** (the “Company” or “Macarthur Minerals”) is pleased to announce that it has expanded its lithium brine project portfolio, staking the Reynolds Springs Lithium Brine Project in Nevada on which it has located lithium at surface of up to 300 parts per million (“ppm”) lithium (“Li”).

The Company has staked 210 new unpatented placer mining claims at its new Reynolds Springs Lithium Brine Project (“Reynolds Springs Project”) in the Railroad Valley, Nevada. Three surface samples at the Reynolds Springs Project returned 260 to 300 ppm Li (Figure 1).

David Taplin, President, CEO and Director of Macarthur Minerals commented:

*“Macarthur Minerals is excited about its staking of new claims in the Railroad Valley in Nevada. The new claims forming the Reynolds Spring Project are located on the Railroad Valley playa, which historically records the largest lithium soil anomaly in the State of Nevada. The Railroad Valley claims were chosen because the Valley has geological attributes that closely match the Clayton Valley, which hosts North America’s only producing lithium mine, Albemarle’s Silver Peak Lithium Mine. Macarthur Minerals believes based on a sampling program conducted in the Railroad Valley, it has staked some of the most prospective ground for lithium in that Valley.”*

### **Reynolds Springs Project – Geological Setting**

The new claims are located near the town of Carrant, in Nye County, Nevada. The Reynolds Springs Project is located approximately 180 miles (300 km) North of Las Vegas, Nevada, and 330 miles (531 km) South East of Tesla’s new Gigafactory (Figure 2).

Railroad Valley is a large topographically closed playa (dry Salt Lake bed) basin located in East-central Nevada. The basin is fault bounded with numerous active thermal springs (anomalous in lithium) emerging along the faults. The fault sets have strike lengths of 25 – 30 miles (42 – 50 km) and are parallel to each other, about 8-12 miles apart. The faults that bound the basin form an elongate rectangular shaped basin of about 300 square miles (830 square km) in size.

Numerous thermal springs emerge along the basin bounding fault systems which form the North-West and South-East flanks of the playa basin. Thermal waters which discharge from the springs carry moderately anomalous values of Lithium. Water samples collected from Reynolds Springs by Macarthur Minerals’ consulting geologists averaged 230 parts per billion (“ppb”) Li and 445 ppb boron. This about twice the concentration for these elements detected from water samples collected at other springs that were sampled in the valley.

The mountains that surround the basin contain outcropping rock units are also anomalous in lithium. This closely matches the geologic criteria for the United State Geological Survey (“USGS”) deposit model for Clayton Valley type lithium brine deposits. Macarthur Minerals believes that the combination of anomalous lithium in soils (+250 ppm) and anomalous lithium in thermal spring waters (230 ppb Li) indicates that the Reynolds Springs Project area is favorable for further exploration.

### **Historical Data**

Prior to staking the claims, Macarthur Minerals completed an analysis of USGS historical soil, rock and groundwater data collected across California, Nevada and Utah. Sediment samples collected in

the 1980s, during the United States Department of Energy's National Uranium Resource Evaluation Program ("NURE") were of particular interest. Spatial analysis of the historical data shows Railroad Valley to be the largest lithium soil anomaly in the State of Nevada. A total of 19,165 soils samples were collected by NURE across Nevada and analysed for Uranium, Lithium and other elements. Eighty-seven (87) samples returned lithium values in excess of 100 ppm. A cluster of 20 samples greater than 100 ppm were collected from Railroad Valley.

The other area identified from the NURE dataset that had similar elevated lithium levels was the Clayton Valley which hosts North America's only producing lithium mine, Albemarle's Silver Peak Lithium Mine. In comparison, approximately 108 samples were collected from the Clayton Valley and surrounding the Silver Peak mine. A total of nine samples reported assays greater than 100 ppm with samples ranging from 102 to 431 ppm Li.

Reconnaissance soil sampling in the Railroad Valley by MacArthur Minerals' consulting geologists narrowed the area of interest to the Reynolds Springs area on the North-West flank of the playa basin. A total of five widely spaced reconnaissance soil samples were collected from the Reynolds Springs area. Analysis of these samples by ALS Chemex Labs using the ME – ICP41 and ICP61 methods returned a range of values for the five samples ranging from 80 – 350 ppm Li (average 256 ppm Li) and a range of 20 – 720 ppm B (average 342 ppm Boron).

The water and soil sample results mentioned above were compared to results from other reconnaissance samples collected elsewhere in the Railroad Valley. This demonstrated that the Reynolds Springs area appeared to be enriched in lithium. As a result of that analysis, a total of 210 new 20-acre unpatented placer mining claims were staked as indicated in Figure 1.

#### **Next Steps for the Reynolds Springs Project**

The Company has recently completed a 210 point geochemical soils sampling program across the Reynolds Springs Project (concurrent with the claim staking). Samples have been submitted to the laboratory for assay and will be reported when data is available. Following analysis of this wide spaced sampling program, the Company will consider an infill sampling program across areas considered highly prospective for lithium.

MacArthur Minerals is also currently undertaking a review of hyperspectral ASTER satellite imagery of Railroad Valley to identify additional prospective areas.

The Reynolds Spring Project is located only 110 miles (183kms) from the Company's Stonewall Project in the Lida Valley, Nevada. The close location of the Reynolds Springs Project and Stonewall Project will allow sharing of resources and expertise for exploration of both projects. The Company is considering entering into joint ventures to assist in the exploration of both projects.

#### **QUALIFIED PERSON**

Mr Randy Henkle, a Registered Member of the Society of Mining and Exploration and a Professional Geologist licensed in British Columbia, Canada, is a Qualified Person as defined in National Instrument 43-101. Mr Henkle has reviewed and approved the technical information contained in this news release.

#### **ABOUT MACARTHUR MINERALS LIMITED (TSX-V: MMS)**

MacArthur Minerals Limited is an exploration and development company that is focused on developing its lithium exploration interests in Australia and Nevada. MacArthur Minerals is the majority shareholder of MacArthur Australia Limited, which is intended to be listed on the ASX, which owns significant iron ore and lithium projects in Western Australia.

On behalf of the Board of Directors,  
**MACARTHUR MINERALS LIMITED**

"Cameron McCall"  
Cameron McCall, Chairman

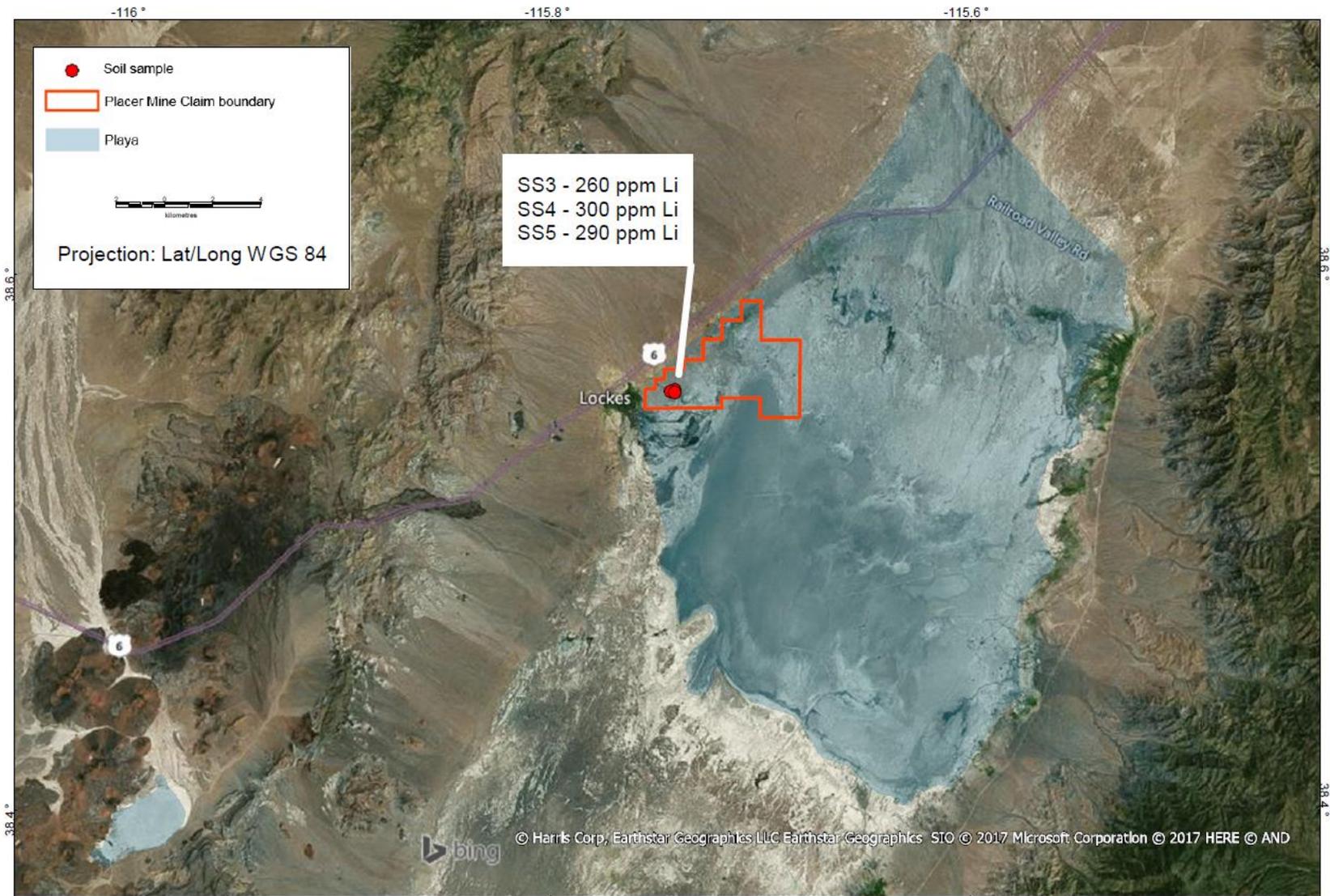
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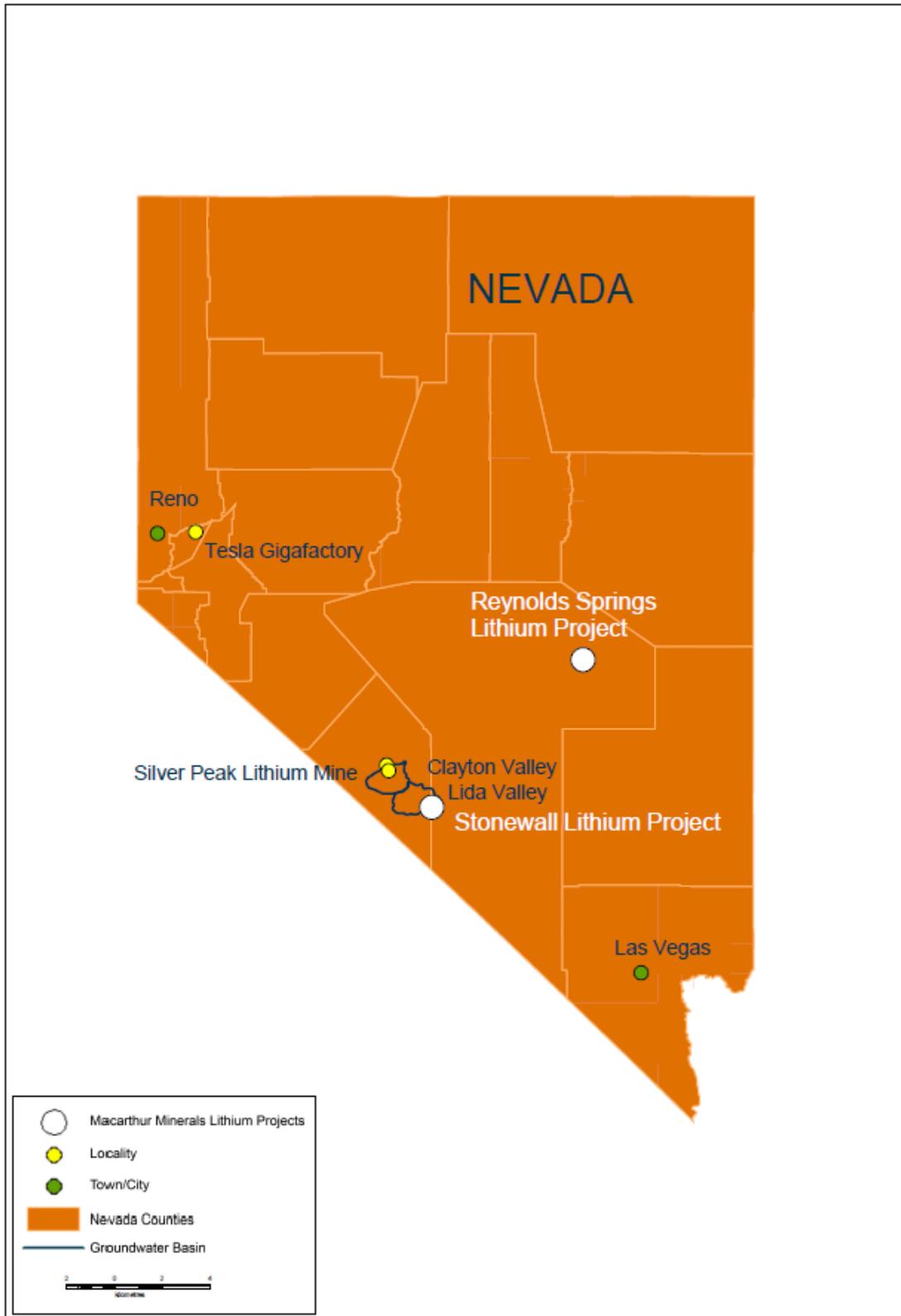
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**Figure 1:** Location of the Reynolds Spring Project and results of soil samples.



**Figure 2:** Regional location of Macarthur Mineral’s Reynolds Spring Project and Stonewall Lithium Project