

16 March 2021

LAKE GILES FEASIBILITY STUDY UPDATE: Macarthur completes AEM Survey of Palaeovalleys to identify groundwater targets

Macarthur Minerals Limited (TSX-V: MMS) (ASX: MIO) (OTCQB: MMSDF) (the “Company” or “Macarthur”) is pleased to announce that it engaged CGG Aviation to undertake a Tempest airborne electromagnetic (AEM) survey of palaeovalleys adjacent to the Lake Giles Iron Project to assist in the identification of groundwater drilling targets.

CGG mobilised to site on 10 March 2021 and the aerial survey was completed over a period of 5 days.

Highlights

- Survey covered an extensive area of the Rebecca palaeovalley in close proximity to the Lake Giles Iron Project where a large quantity of groundwater is expected to occur.
- Tempest AEM survey successfully employed in previous groundwater aquifer interpretations.
- Drill targets will be defined from AEM surveys with subsequent drilling planned during the first part of this year to test quality and quantity of water to support magnetite processing requirements.

Macarthur has been working with consulting hydrogeologists from Rockwater Pty Ltd (“Rockwater”) to define a source for process water requirements for magnetite processing at its Lake Giles Iron Project.

The Goldfields region contains numerous buried palaeovalleys that are likely to contain large volumes of groundwater. Such systems are currently exploited to supply process water demands for other Goldfields operations such as BHP’s Nickel West, Glencore’s Murrin Murrin Nickel Project and Gold Road’s Gruyere Gold Project.

The western limb of the Rebecca palaeovalley is located approximately 15 to 40 km east of the Lake Giles Iron Project and extends over 160 km North to South (Figure 1). This system is expected to contain abundant groundwater and is currently not exploited by other operators.

Macarthur engaged CGG Aviation to undertake an airborne AEM survey covering an area of 970 km². Electromagnetic data was collected from the survey which was conducted over 1,322 line kilometres at a line spacing of 800m (Figure 1).

The Tempest AEM system is suited to conductivity mapping and has previously been utilised for mapping the location, extent and basement topography of palaeodrainage systems. Interpretation of the data collected will be undertaken by hydrogeologists from Rockwater, who are experts in the application of hydrological surveys, to define suitable drill targets for groundwater exploration.

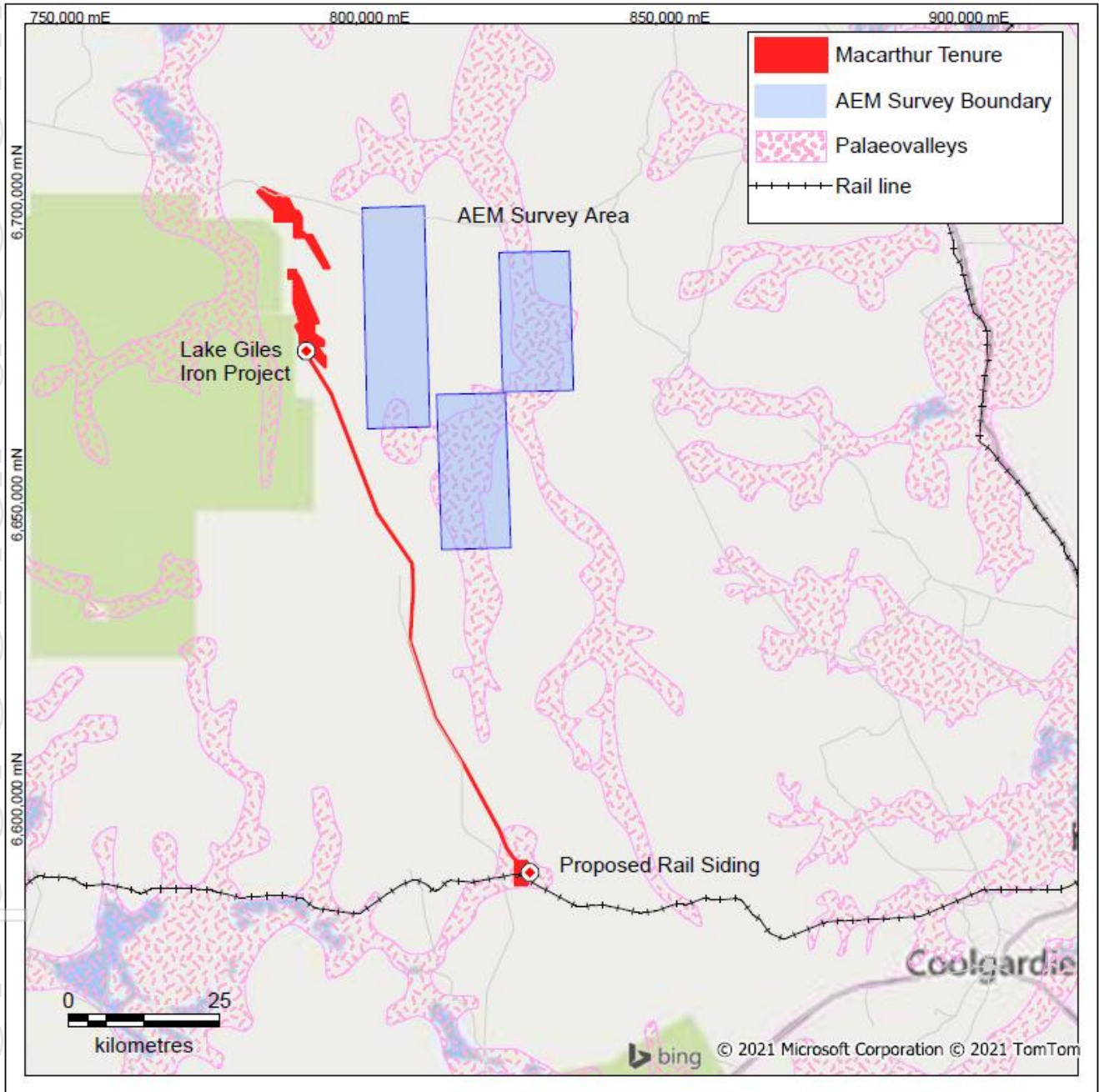
the green iron ore company

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Figure 1. Tempest AEM Survey area over the Rebecca Palaeovalley as mapped by the Kalgoorlie 1:1,000,000 Sheet. Project GDA94, Zone 50.



Andrew Bruton, Chief Executive Officer of Macarthur Minerals commented:

“The airborne survey programme of the paleovalley adjacent to the Lake Giles Iron Project will identify suitable drill targets for groundwater exploration to enable the Company to test the quantity and quality of water required to support its magnetite processing requirements. Macarthur is pleased to be working with CGG Aviation and Rockwater on this important component of work which will feed into the Company’s Feasibility Study.”



On behalf of the Board of Directors, Mr Cameron McCall, Chairman

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Company profile

Macarthur is an iron ore development, gold and lithium exploration company that is focused on bringing to production its Western Australia iron ore projects. The Lake Giles Iron Project mineral resources include the Ularring hematite resource (approved for development) comprising Indicated resources of 54.5 million tonnes at 47.2% Fe and Inferred resources of 26 million tonnes at 45.4% Fe; and the Lake Giles magnetite resource of 53.9 million tonnes (Measured), 218.7 million tonnes (Indicated) and 997 million tonnes (Inferred). Macarthur has prominent (~721 square kilometer tenement area) gold, lithium and copper exploration interests in Pilbara region of Western Australia. In addition, Macarthur has lithium brine Claims in the emerging Railroad Valley region in Nevada, USA.

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Certain of the statements made and information contained in this press release may constitute forward-looking information and forward-looking statements (collectively, “forward-looking statements”) within the meaning of applicable securities laws. All statements herein, other than statements of historical fact, that address activities, events or developments that the Company believes, expects or anticipates will or may occur in the future, including but not limited to statements regarding expected completion of the Feasibility Study; conversion of Mineral Resources to Mineral Reserves or the eventual mining of the Project, are forward-looking statements. The forward-looking statements in this press release reflect the current expectations, assumptions or beliefs of the Company based upon information currently available to the Company. Although the Company believes the expectations expressed in such forward-looking statements are based on reasonable assumptions, such statements are not guarantees of future performance and no assurance can be given that these expectations will prove to be correct as actual results or developments may differ materially from those projected in the forward-looking statements. Factors that could cause actual results to differ materially from those in forward-looking statements include but are not limited to: unforeseen technology changes that results in a reduction in iron or magnetite demand or substitution by other metals or materials; the discovery of new large low cost deposits of iron magnetite; the general level of global economic activity; failure to complete the FS; inability to demonstrate economic viability of Mineral Resources; and failure to obtain mining approvals. Readers are cautioned not to place undue reliance on forward-looking statements due to the inherent uncertainty thereof. Such statements relate to future events and expectations and, as such, involve known and unknown risks and uncertainties. The forward-looking statements contained in this press release are made as of the date of this press release and except as may otherwise be required pursuant to applicable laws, the Company does not assume any obligation to update or revise these forward-looking statements, whether as a result of new information, future events or otherwise.