

26 March 2021

LAKE GILES FEASIBILITY STUDY UPDATE: Macarthur applying for additional tenements to support groundwater drilling campaign following completion of AEM Survey

Macarthur Minerals Limited (TSX-V: MMS) (ASX: MIO) (OTCQB: MMSDF) (the “Company” or “Macarthur”) is pleased to announce that has made applications for tenements to support a groundwater search drilling programme following the successful completion by CGG Aviation of a Tempest airborne electromagnetic (AEM) survey of palaeovalleys adjacent to the Lake Giles Iron Project.

The AEM survey was undertaken to assist in the identification of groundwater drilling targets.

Highlights

- Recently completed Tempest AEM survey covered an extensive area of the Rebecca palaeovalley, which is in close proximity to the Lake Giles Iron Project where a large quantity of groundwater is expected to occur.
- AEM survey results are being interpreted and drill targets will now be defined, with subsequent drilling planned during the first part of this year to test quality and quantity of water to support magnetite processing requirements.
- The announced tenements applications are Miscellaneous Licences that are required to support the planned groundwater search activities.
- Macarthur is working with hydrogeologists from Rockwater to design a groundwater drilling exploration programme across prospective zones identified from the AEM survey.

Macarthur continues to work 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 recently completed an airborne AEM survey covering an area of 970 km² across the Rebecca palaeovalley. Preliminary results have been obtained (Figure 2) with additional data processing ongoing to generate detailed information to map the palaeovalley geometry. Macarthur has now made applications for two groundwater search miscellaneous licences covering an area of 553 km² across the prospective zone interpreted from the AEM survey. The Company is now preparing to undertake a groundwater exploration program targeting approximately 30 holes to obtain detailed information on water flows and water quality.

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

the green iron ore company



undertaken by hydrogeologists from Rockwater, who are experts in the application of hydrogeological surveys, to define suitable drill targets for groundwater exploration.

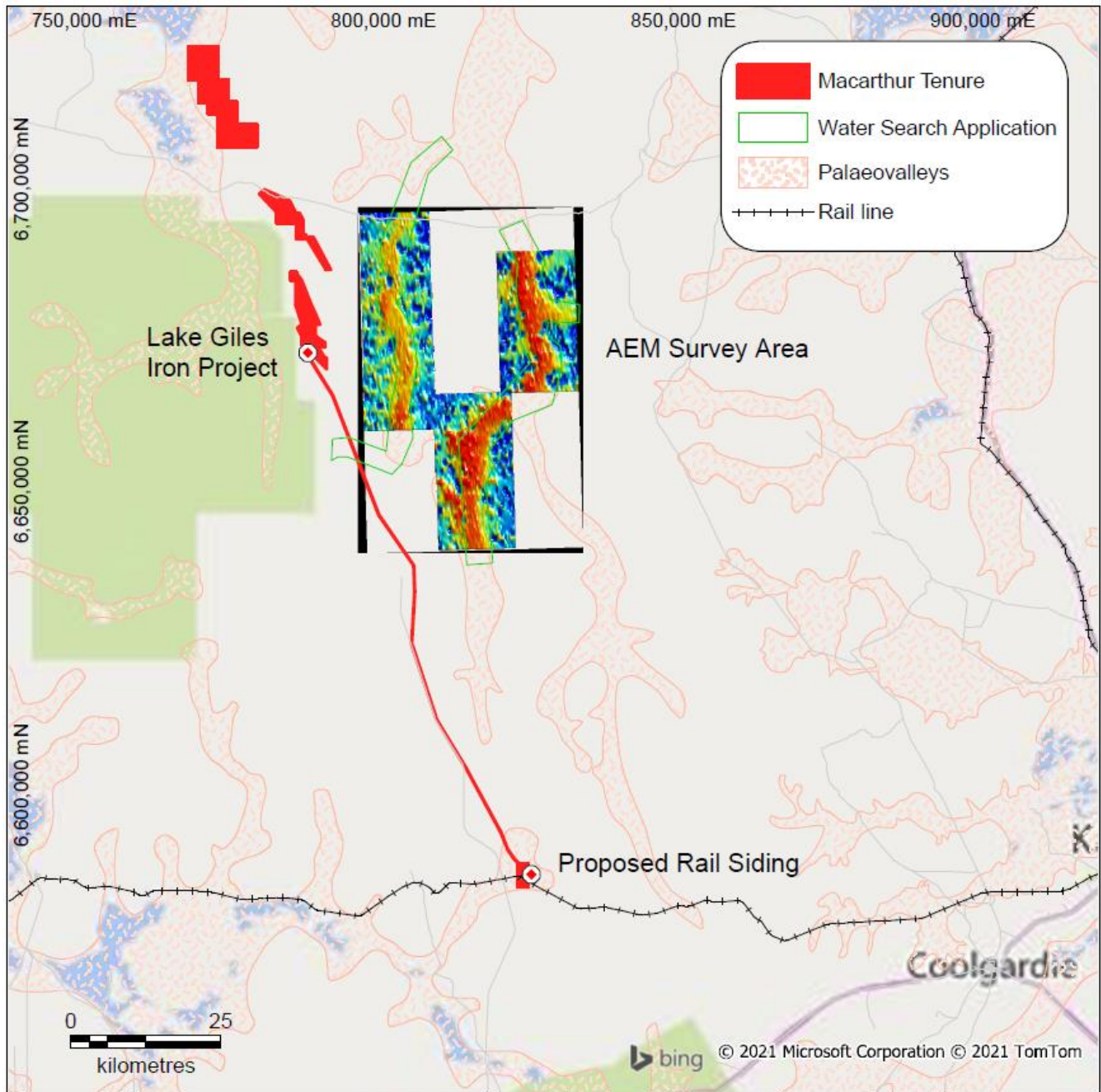


Figure 1. Tempest AEM Survey area over the Rebecca Palaeovalley as mapped by the Kalgoorlie 1:1,000,000 Sheet. Project GDA94, Zone 50.

Andrew Bruton, Chief Executive Officer of Macarthur Minerals commented:

“Macarthur’s applications for two Miscellaneous Licences to support planned groundwater search activities is another important step forward for the Lake Giles Iron Project Feasibility Study. Following completion of analysis of the AEM survey data, Macarthur will work with consulting hydrologists from Rockwater, to identify suitable drill targets.

The Company plans to commence groundwater exploration activities as soon as possible following the grant of the relevant tenements. This important programme of work will enable the Company to test the quantity and quality of water required to support its magnetite processing requirements, and it will form part of a much broader scope of site-based activities planned by the Company at Lake Giles this year.



Step by step, the Macarthur team is working through every aspect of the Lake Giles Iron Project to ensure the delivery of a robust Feasibility Study that has the potential to deliver a valuable and sustainable high-grade magnetite project for its shareholders.

We look forward to providing many more updates on progress in the coming months.”

Issue of Performance Incentive

Pursuant to the Company’s Share Compensation Plans, the Company has granted to a director 321,060 Bonus Shares with a deemed price on grant of C\$0.6147 and a consultant 291,666 Bonus Shares with a deemed price on grant of C\$0.6240 per share. The issue of the Bonus Shares following grant maybe subject to shareholder approval, if required.

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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Caution Regarding Forward Looking Statements

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.