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LAKE GILES FEASIBILITY STUDY UPDATE: Lake Giles Feasibility Study Advancing under Steady Hand of Global Consultancy Stantec

Macarthur Minerals Limited (ASX: MIO) (TSX-V: MMS) (OTCQB: MMSDF) (the Company or Macarthur) is pleased to provide an update on the progress of the current Feasibility Study for the Company's flagship Lake Giles Iron Project.

The Company's lead consultant, Engenium now Stantec (Stantec), are advancing metallurgical process test work, process flow sheet development and key non-process infrastructure engineering design work for the Feasibility Study that is presently being undertaken on the Company's flagship high grade magnetite Lake Giles Iron Project in Western Australia.

Stantec's highly experienced metallurgical process consultant Mr Neville Dowson leads the metallurgical test work and development of the process flow sheet and engineering works for a metallurgical process plant design that will target delivery of a high grade +65% Fe magnetite concentrate. Under Stantec's guidance, metallurgical sample testing is underway in Perth utilising the expertise of Bureau Veritas (a world leader in inspection, testing and certification). The results of this test work will provide Stantec with the crucial outputs to complete the metallurgical process flow sheet engineering design work.

Highlights of Feasibility Study Progress to Date

The necessary work to advance the Feasibility Study has been extensive, and to date includes the following:

- **Below Rail Paths Secured (15 July 2020):** Below rail Proposal incorporating Indicative Track Access Pricing (ITAP) received from Arc Infrastructure, confirming availability of sufficient below rail network paths to support commercial magnetite mining operations (see announcement: [here](#)). The next step is to confirm pricing and enter into a binding Commercial Track Access Agreement following completion of the current Feasibility Study.
- **Resource Upgrade Completed (12 August 2020):** Completion of a Measured Resource Statement to JORC and NI43-101 standards (see announcement: [here](#)), which has identified sufficient resources in the appropriate categories to support mine planning under the Feasibility Study.
- **Bulk Rail Unloading Solution Advanced at Esperance Port (2 September 2020):** RCR Mining Technologies Pty Ltd (RCR MT) engaged to provide a conceptual engineering and design solution for bulk rail unloading at Esperance Port, and corresponding site visit undertaken (see announcement: [here](#)).
- **Technical Report Lodged for Resource Upgrade (1 October 2020):** Technical Report lodged confirming Measured Resource of 53.9Mt and Indicated Resources of 218.7Mt and an Inferred Mineral Resource of 997Mt for magnetite (see announcement: [here](#)), providing sufficient resources in the appropriate categories to support the current Feasibility Study.

continued overleaf:



Highlights (continued)

- **Engineering Design Report Completed for Bulk Rail Unloading Solution (7 October 2020):** RCR MT completes engineering design report to support potential development of a bulk rail unloading solution at Esperance Port (see announcement: [here](#)).
- **Port Access on Track (8 February 2021):** Memorandum of Understanding signed with Southern Ports Authority (SPA) which provides a pathway for the development of rail unloading infrastructure and associated infrastructure within the Port (see announcement: [here](#)). Relevantly, Southern Ports Authority (SPA) is presently finalising a Master Plan for its preferred development option at Esperance Port. Macarthur has been actively involved in the consultation rounds for that process and will be fully supportive of a solution for a bulk rail unloading solution that can deliver increased capacity under open access principles within a timeframe that aligns with Macarthur's target date for commencement of commercial mining operations at Lake Giles.
- **Leading Study Consultants Appointed to Accelerate Feasibility Study Delivery (16 February 2021):** The Company appointed leading consultants **Optimize Group**, **Projectus Infrastructure** and **FTI Consulting** to enhance the delivery of the Feasibility Study through the provision of study management oversight, transport infrastructure analysis and modelling and financial modelling services, respectively (see announcement: [here](#)).
- **Completion of AEM Groundwater Survey of Paleovalleys to Identify Groundwater Targets (16 March 2021):** CGG Aviation engaged to undertake a Tempest airborne electromagnetic survey (AEM) of the paleovalleys adjacent to the Lake Giles Iron Project to assist identification of groundwater drilling targets (see announcement: [here](#)).
- **Phase 1 Mine Planning (15 April 2021):** Phase 1 mine planning work has been completed by Orelogy Mining Consultants (Orelogy) and Pells Sullivan Meyninck (PSM) (see announcement: [here](#)).
- **Geotechnical Drilling Underway (6 July 2021):** An 8 hole geotechnical drill programme is set to commence at Moonshine and Moonshine North during July to support finalization of Phase 2 mine planning work being undertaken by Orelogy (see announcement: [here](#)).



Figures: Sample inspection of Macarthur's magnetite core by Stantec's Mr Neville Dowson



Stantec is a highly regarded global consultancy with extensive experience in the mining sector. Stantec's presence in Australia and Canada provides the perfect platform to deliver Macarthur's Feasibility Study to required standards for the Australian and Canadian markets. The Stantec team have considerable experience in the design of magnetite processing plants. Dr Richard Peck, Macarthur's magnetite processing subject matter expert is providing oversight on Stantec's process design, metallurgical test work programme and preparation of the process design criteria, flow diagram and mass balance.

Jose Granado, Stantec Country Leader for Australia commented:

"We are proud to leverage our global expertise and passion for applying sustainable best practice to help advance the Lake Giles Iron Project. By continuing our partnership with Macarthur Minerals, we are ready to deliver a feasibility study that paves the way forward for this important project."

Andrew Bruton, CEO of Macarthur Minerals commented:

"Following the onset of the Global Covid-19 pandemic early last year and throughout the balance of 2020, the Company has been steadily progressing the foundational work required to underpin the delivery of the study. Much of that work has focused on necessary background work to advance route to market concepts and delivery mechanisms. Although much of that work has not been visible to the market, it is essential."

The Feasibility Study is on track for delivery this year, and with the combined technical capabilities and experience of Stantec's team lead by Neville Dowson and Macarthur's highly experienced metallurgical consultant Dr Richard Peck and mining engineer Bernard Holtshousen, the Company has high expectations, and an equally high level of confidence, that the Feasibility Study will meet the expectations of the market."

Stantec's involvement in key areas will help bring the Feasibility Study in on time and within budget. We look forward to continuing to work with them through these final phases of delivery."

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 Ullaring 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). The JORC reporting tables and Competent Person statement for the magnetite and hematite mineral resources have previously been disclosed in ASX market announcements dated 12 August 2020 and 5 December 2019. Macarthur has prominent (~721 square kilometre 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.



About Stantec

Communities are fundamental. Whether around the corner or across the globe, they provide a foundation, a sense of place and of belonging. That's why at Stantec, we always **design with community in mind**.

We're designers, engineers, scientists, and project managers, innovating together at the intersection of community, creativity, and client relationships. Balancing these priorities results in projects that advance the quality of life in communities across the globe.

Visit us at stantec.com or find us on social media.

For more information about Stantec's recent acquisition of Engenium, [see here](#).

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