

FEASIBILITY STUDY UPDATE: Metallurgical and non-process infrastructure design advances – Study completion now in sight

Macarthur Minerals Limited (ASX: MIO) (TSX-V: MMS) (OTCQB: MMSDF) (the **Company** or **Macarthur**) is pleased to provide an update on the solid progress being made on the Feasibility Study for its high-grade magnetite Lake Giles Iron Project. The metallurgical process test work and the non-process infrastructure design for the Feasibility Study is complex but has now moved past 60% design completion. The balance of the work required to complete these components of the study is now expected to run at an accelerated pace from this point forward.

The following summary sets out details of current progress on both metallurgical process design and non-process infrastructure design as the Feasibility Study advances closer to completion.

Metallurgical Process and Non-Process Infrastructure Progress Highlights

- **Metallurgical process test work and process flow sheet design:**
 - The metallurgical test work is advancing and is approximately 60% complete
 - Final LIMS tests have been conducted with assays pending
 - Magnetic and reverse flotation test work is now being undertaken
 - HGPR sample test work is being scheduled
 - Process engineering and design work for flow sheet is advancing and is over 60% complete
- **Non-process infrastructure (NPI) work:**
 - The NPI works package is advancing with a 60% design milestone reached
 - The Stantec (Engenium) team is heavily engaged in design works for all support infrastructure encompassing the bore field, mine village, airport, haul road, water desalination plant, solar power plant, mining infrastructure, and the rail siding
 - 3D design of the tailings storage facility and evaporation ponds is currently in progress with preliminary geotechnical analysis completed for sourcing onsite construction materials
 - Detailed LiDAR data has been obtained and will be utilized to improve current hydrological modelling of the project catchment to ensure adequate design and protection of critical logistics infrastructure
 - An electrical load list for both process and non-process infrastructure has been completed to support power configuration and optimisation analysis

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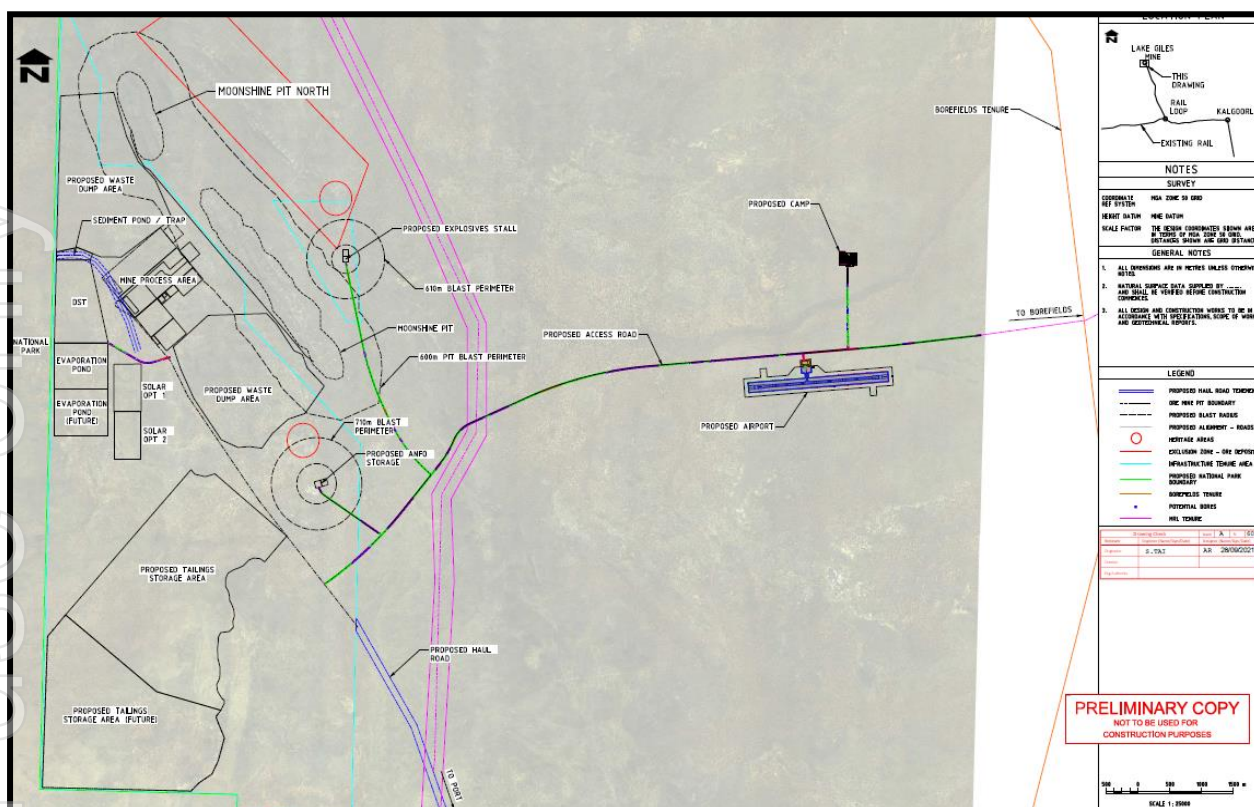


Figure 1: Preliminary site layout – Lake Giles Iron Project

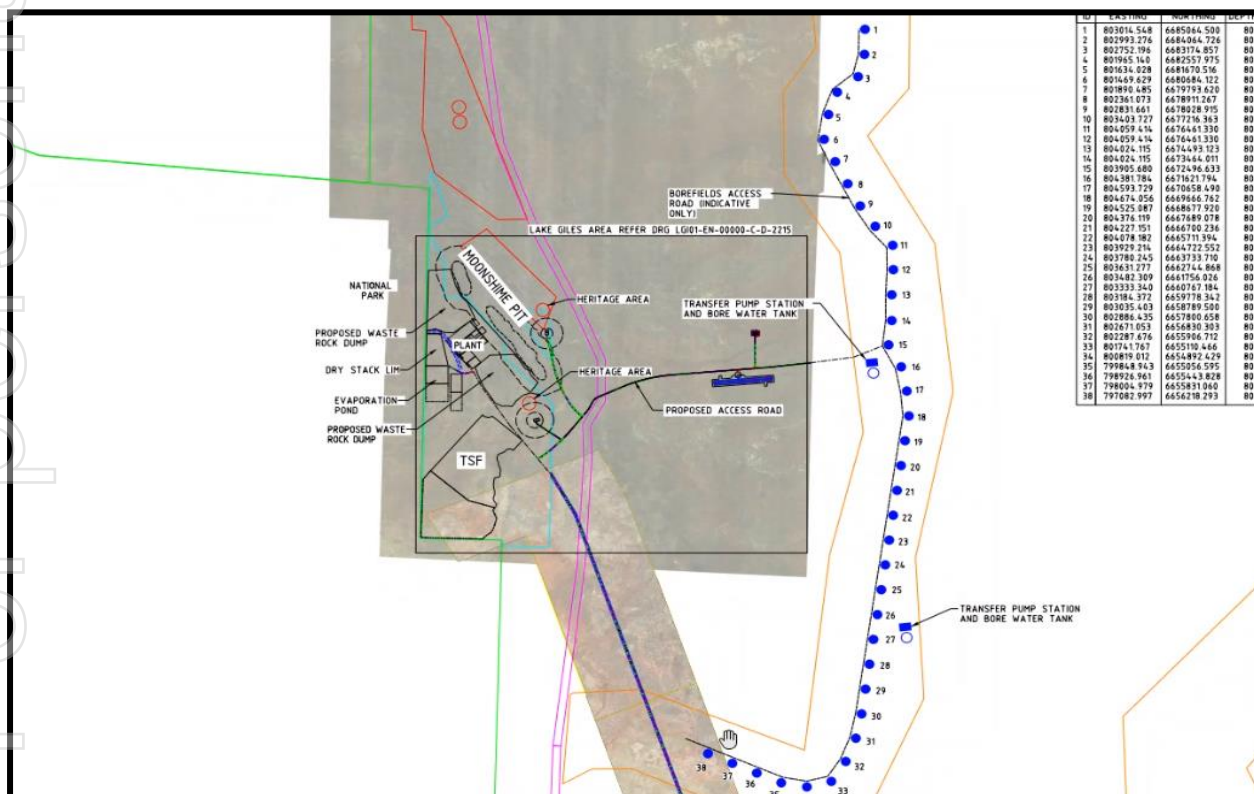


Figure 2: Preliminary borefield layout – Lake Giles Iron Project

The current geotechnical drilling programme of works is nearing completion with a target end date of 22 October 2021. The drill programme has exceeded the original target end date of the end of September with the contributing factors including wet weather and challenging ground conditions. Following completion of the drilling work, the core samples will be submitted to the lab for assessment prior to the data being used to finalise the mine planning work being undertaken by Orelogy. Although the extended drilling period may moderately



affect the timeline for mine planning in the study schedule, the overall resultant impact is not currently anticipated to be material.

The Company now anticipates providing, at a minimum, fortnightly updates on Feasibility Study progress in the lead-up to the completion of the Study and the delivery of the final study outputs to the market. Upcoming news releases will provide an update on the material progress that has been made on numerous aspects of the study including rail and port logistics and mine planning.

Andrew Bruton, CEO of Macarthur Minerals commented:

“Management is pleased with the solid gains being made in the advancement of the Feasibility Study. Ensuring the highest quality results from the process is paramount.

The study is advancing towards a conclusion now, and the next few months should see the rapid completion of the fundamental body of works required to complete the final Feasibility Study reports and the detailed economic model for the project so that the key financial outputs can be presented to the market and potential funders.

Macarthur is encouraged by the work and quality of the outputs being achieved by its consultants as they progress towards completion of the Feasibility Study. Management looks forward to releasing further details of material progress milestones by way of regular updates over the coming weeks.”

On behalf of the Board of Directors

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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). 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.

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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.