

26 October 2021

FEASIBILITY STUDY UPDATE: Major component of Study works now complete as geotechnical drill campaign finishes at Lake Giles

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 Feasibility Study for its high-grade magnetite Lake Giles Iron Project in Western Australia. The geotechnical drilling programme of works has now concluded at Moonshine and Moonshine North, and steady progress continues to be made on all other aspects of the Study, including ongoing metallurgical process test work, the design of the process plant and the design of non-process infrastructure (including the tailings storage facilities, haul road, rail siding, desalination plant, buildings and port layout).

The Company recently provided updates to the market regarding the progress of the Feasibility Study on 1 October 2021 (see announcement regarding the progress of metallurgical and non-process infrastructure design [here](#)), on 7 October 2021 (see announcement regarding the progress of development of the rail and port concept plan of operations [here](#)), and on 12 October 2021 (see announcement regarding the progress on the geotechnical analysis and mine planning work for the Study [here](#)).

The Company anticipates providing an update to the market shortly on final timing for completion of the Study, including target dates for the release of key outputs (such as project economics) as well as target dates for release of the Mineral Reserve Statement, the NI43-101 Technical Report and the final JORC report.

The following summary sets out details of current progress of the Feasibility Study as it advances closer to completion.

Highlights

- **Geotechnical drilling complete:** The slow progress of drilling due to challenging ground conditions, wet weather conditions contributed to a longer than anticipated duration of the works, however the geotechnical drilling programme at Lake Giles has now concluded. A total of 9 geotechnical diamond drill holes with depths of between 40 and 230 metres have been completed by two drill crews during the period from July to October.

The geotechnical drill core will now be delivered to Bureau Veritas for completion of lab analysis which will clear the way for completion of the necessary rock mass and structural model work by PSM Consulting Pty Ltd. PSM's work will provide the basis for mine pit slope parameters which facilitate completion of the second phase of mine planning work which will be undertaken by Orelogy Consulting Pty Ltd.

- **Process test work:** Progress on the metallurgical test work continues to advance with a range of test work having already been undertaken, and more test work planned over coming weeks to refine the process flow sheet. This includes LIMS tests, magnetic and reverse flotation tests and HGPR test work, as well as the development of a QEMSCAN programme.

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Highlights (continued)

- **Process plant design:** Progress on the process plant layout and plant model continues to advance, with over 60% of the engineering design work completed, including updated water balance work and electrical load requirements.
- **Non-process infrastructure:** Work continues to progress on the haul road plan and profiles, earthworks modelling, ANFO and magazine location, rail loop design, LNG and fuel storage facilities, desalination plant for water treatment, and requirements for bore field power. Modelling of the tailings storage facility is progressing and work on the proposed port infrastructure layout plan (consistent with the development concepts contemplated under the recently released draft Master Plan for Esperance Port) is also being advanced.
- **Financial outputs:** FTI Consulting Pty Ltd is aggregating data from the study outputs to progress the completion of the detailed economic model that will accompany the delivery of the final study reports.
- **Qualified Person site visit:** The final Feasibility Study for the Lake Giles Iron Project will require sign-off by Qualified Persons for the purposes of compliance with National Instrument 43-101 (which governs standards of disclosure for mineral projects). To facilitate this, a Qualified Person site visit is currently expected to be conducted at Lake Giles during November.

The extended drilling period has required an adjustment to the commencement of the second phase of mine planning work, however the Company is working to ensure that the remaining work is delivered as quickly as possible whilst still maintaining the quality of the Study outputs.



Figure 1: Drill team and geologists on site at Lake Giles at the conclusion of the geotechnical drilling programme of works in October 2021 and core trays stacked and ready for transport to laboratory for analysis.



Figure 2: Diamond drill core from the footwall of Moonshine North and drill crew on site, October 2021.

Andrew Bruton, CEO of Macarthur Minerals commented:

“It is pleasing that the geotechnical drilling works have come to a conclusion. Whilst the programme has taken longer than expected, mining costs are a critical component of the project economics and so it has been very important to ensure that these works were carefully completed in order to deliver the necessary data for delivery of an optimised mine plan.”

As reported on 1 October 2021, the metallurgical process test work and the non-process infrastructure engineering design for the Study passed the 60% mark several weeks ago. So overall, the Study is well advanced. With the geotechnical drilling works now complete, the Company is looking forward to accelerating into the final phases of the Study’s delivery, including the all-important second phase mine planning work.

The Company understands the keen interest of shareholders in the timing for the delivery of the Feasibility Study. The Study is edging closer to completion, and we anticipate providing an update to the market shortly on final timing for its completion, including target dates for the release of key outputs (such as project economics) and target dates for release of the Mineral Reserve statement, the NI43-101 Technical Report and the final JORC report.

In the interim, your Company will continue to release progressive updates on material advances under the Study over the coming weeks.”

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

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No new information

To the extent that this announcement contains references to prior exploration results and Mineral Resource estimates, which have been cross referenced to previous market announcements (including supporting JORC reporting tables) made by the Company, unless explicitly stated, no new information is contained in accordance with Table 1 checklist in the JORC Code. The Company confirms that it is not aware of any new information or data that materially affects the information included in the relevant market announcements and, in the case of Mineral Resources that all assumptions and technical parameters underpinning the estimates in the relevant market announcement continue to apply and have not materially changed.

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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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.