



GCM COMMENCES ULTRAHIGH PURITY MCINTOSH GRAPHITE PROJECT PFS

Highlights

- PFS awarded to leading engineering consulting firm GR Engineering (GRES) for the McIntosh graphite upstream process (concentrate).
- GR Engineering has also been awarded the value-add downstream scoping study which will run in parallel.
- This strategy is to ensure the most economical path for McIntosh graphite is pursued with a specific focus on producing material for the lithium-ion battery industry.
- GCM looks forward to leveraging GRES' expertise and knowledge to advance the McIntosh graphite project in consultation with our own metallurgical expert Oliver Peters and graphite marketing expert Christopher Whiteley.
- The commencement of the PFS is a significant milestone for the Company as it marks a major step forward in our commitment to develop the ultrahigh purity McIntosh graphite project.
- Previous test work conducted on McIntosh flake took a high value coarse flake size and crushed it down to a small flake, the objective of the new testwork will be to preserve flake size and target the lowest emission pathway possible in both upstream and downstream.
- GCM is committed to becoming one of the most sustainable graphite producers globally.



Green Critical Minerals Limited (“GCM” or “the Company”) which holds earn-in rights for up to 80% of the advanced Ultra High Purity McIntosh Graphite Project (see CML’s announcement on 18 November 2022) is pleased to announce that we have awarded study contracts for both upstream and downstream to GR Engineering. This is a significant milestone for our company as it marks a major step forward in our commitment to develop the ultrahigh purity McIntosh graphite project.



The upstream study involves the extraction of the graphite from the ground and ends with producing raw graphite concentrate, while the downstream process involves taking the raw concentrate and refining it into high-quality graphite products that can be used in a range of industrial applications including the lithium-ion battery industry.



GR Engineering is a leading engineering consulting firm with extensive experience in the Graphite processing industry, having recently conducted studies for Renascor Resources Ltd (ASX: RNU) and Ecograp Limited (ASX: EGR). We are pleased to partner with them and look forward to leveraging their expertise and knowledge to advance the McIntosh graphite project in consultation with our own metallurgical expert Oliver Peters which has worked on over 30 graphite projects globally and Christopher Whiteley who has over 25 years' experience in sales and marketing of graphite.

While there is already a PFS on McIntosh graphite which shows robust economics, GCM is aiming to update the study with more recent cost bases, and significantly improve on the economics by looking at avenues to preserve the high value coarse flake.

Low Carbon Footprint Pathway

The Companies goal is to achieve a fully vertical graphite mine-to-market operation based in Western Australia that is committed to ESG practices.

To achieve this goal, we are exploring a range of strategies and technologies that will help us reduce our carbon footprint throughout the entire production process. This will be a key focus for the Company at every decision-making level. One of the key areas we are focusing on is energy consumption and how we can reduce our reliance on fossil fuels by exploring the use of renewable energy sources, such as solar, wind, and hydro power. We have engaged power consultants to review options including the Ord River hydro power station which is situated in close proximity to the McIntosh project site.

The Company is also looking at ways to reduce the emissions associated with the processing of graphite itself. This includes adopting more efficient and environmentally friendly processing techniques including ore sorting and HF free purification.

McIntosh Ultrahigh Purity Flake Advantages

Testwork has shown McIntosh's raw graphite concentrate is easily purified into ultra-high purity flake graphite allowing a potentially industry leading low purification cost (See HXG announcement on 11 December 2018). This is significant in the downstream process as it eliminates the need for additional refining steps, which are typically energy-intensive.



Next steps / Future news flow

- Petrographic analysis from exploration targets to establish flake size
- First pass Ore Sorting testwork results
- Heritage survey over proposed exploration areas
- Maiden drill program commencement
- Met test work results
- SPG qualification testwork commencement
- Process plant design completion
- Downstream Scoping study delivery
- Delivery of updated McIntosh PFS

Authorisation

The provision of this announcement to the ASX has been authorised by the Executive Chairman Leon Pretorius and non-executive Director Charles Thomas of Green Critical Minerals.

Green Critical Minerals confirms that it is not aware of any new information or data that materially affects the exploration results contained in this announcement.