



## VHD Graphite Commercialisation Advances with Customer Sample Requested and First Heat Sink Produced

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- **Customer sample testing initiated** – with an experienced company<sup>i</sup> that has expertise in the design and supply of heat sinks to the high-performance electronics and electrical systems sector progressing to Stage 2 of the qualification process.
- **First VHD Graphite heat sink machined** confirming real-world form factor and production viability.
- **VHD Graphite identified as a solution to aluminium heat sink performance limitations.**
- Engagement with additional prospective customers continues to advance, with GCM targeting Q2 2025 for additional customers progressing to Stage 2 of the qualification process. GCM remains confident that its current engagement activities, including in the data centre sector, will result in collaboration partnerships for the **potential production of heat sinks and cold plates.**
- North American warehousing and **logistics hub planning underway** to support future supply chain operations and expansion to North American manufacturing.
- Recent results confirmed the **commercial scalability** of VHD Technology, positioning it as a leading material for **next-generation cooling solutions** in AI computing, data centres, aerospace, and energy storage, ultimately defining a **clear path to market.**
- As AI computing, data centres, and high-performance electronics demand better heat management, traditional materials like copper and aluminium are facing limitations. **VHD Graphite is not only demonstrating the ability to replace these materials but also significantly outperform them**, with results showing the potential to offer a lighter, more efficient and cost-effective alternative for next generation cooling solutions.

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**Green Critical Minerals Ltd ('GCM' or 'the Company')** is pleased to announce two major milestones in the commercialisation of its proprietary Very High Density (VHD) Graphite Technology:

1. Successful machining of the first VHD Graphite heat sink, validating product form and manufacturability; and
2. Customer request for application-specific sample testing, marking entry into the second stage of GCM's structured customer qualification process.



These developments confirm that VHD Graphite is transitioning from technical interest to market validation, reinforcing its commercial potential in the global thermal management sector.

The Company also continues to progress its customer qualification program, with discussions underway with several additional potential customers. GCM has been actively engaging with a wide range of potential customers across North America, Europe and Australia, including both end users (OEMs and data centre operators, etc) and intermediaries (machining shops and component manufacturers).

**Green Critical Minerals' Managing Director, Clinton Booth, commented:** *"The responses we have received from our engagements continue to reflect strong market interest in our VHD Graphite Technology, with customers consistently expressing a clear demand for next-generation cooling solutions that deliver performance, efficiency, and cost advantages."*

*"Within these discussions, VHD Graphite is emerging as a clear frontrunner, thanks to its exceptional thermal diffusivity—3 times greater than aluminium and standard graphite, and 2.6 times greater than copper—making it a standout alternative to traditional materials."*

*"Encouragingly, recent pilot-scale validation has confirmed that these superior properties translate reliably beyond lab conditions, reinforcing VHD Graphite's commercial applicability. And now having successfully machined a full-scale heat sink, we've demonstrated not only material performance but also manufacturability to meet in demand, real-world application requirements."*

*"These milestones have each played a pivotal role in enabling VHD graphite customer sample testing, and possible real-world prototype testing with customers across computing, electronics, aerospace and energy storage sectors, bringing us closer to formal qualification and commercial agreements."*

### **CUSTOMER VALIDATION: MARKET INTEREST CONVERTS TO PRODUCT TESTING**

GCM's structured four-stage customer engagement process is delivering tangible results and advancing multiple commercial pathways. The process is designed to methodically qualify VHD Graphite for high-performance thermal applications, while aligning with customers' technical validation and procurement cycles. The four stages of the process are:

1. Technical Review and Acceptance – Completed by multiple customers.
2. Sample Request and Testing – **Now underway** with a key customer in the electronics and electrical sector.
3. Prototype Development and Testing – Target Q3 2025.
4. Final Qualification and Sales Agreements – Target first revenue H1 2026.

This structured approach is already demonstrating traction with initial customers. One customer, a significant player in high performance electronics and electrical systems, has identified thermal hotspots and efficiency limitations with its current aluminium heat sinks. With thermal diffusivity

up to 3x higher than aluminium and 2.6x higher than copper, VHD Graphite has been selected for application-specific performance testing.

GCM continues to receive strong interest from a growing pipeline of prospective partners across North America, Europe, and Australia, with GCM confident several will enter the sample testing phase in Q2 2025.

### **MACHINING SUCCESS – FIRST VHD GRAPHITE HEAT SINK PRODUCED**

GCM has now successfully machined a full-scale heat sink from its VHD Graphite blocks, marking a significant milestone in the product development pathway.



*Figure 1 - VHD Technology Prototype Heat Sink*

This achievement confirms:

- The ability to drill, tap and machine using standard industrial processes.
- Costing and production efficiency data for customer engagement and internal planning.

This development positions GCM to supply fully formed, application-specific prototypes for real-world testing and customer validation across sectors including AI, data centres and high-performance computing, electronics, aerospace, and automotive.

### **SUPPLY CHAIN READINESS – NORTH AMERICAN HUB IN PLANNING**

To support expected customer uptake and a seamless path to market, GCM has initiated planning for the establishment of a central warehousing and service hub in North America. This strategically located facility will play a key role as we scale operations to North American manufacturing capability – with a focus on streamlining:

- **Inbound logistics from Australia** - enabling efficient, consolidated shipments of VHD Graphite products into a single distribution point, reducing transit times and transportation costs.
- **Order processing and fulfilment** - improving responsiveness and reliability in meeting customer orders.



- **Localised customer delivery and technical support** - providing on-the-ground assistance to customers across North America, including tailored logistics solutions and technical servicing.

This proactive step underscores GCM's commitment to commercial readiness and its capability to support global deployment of VHD Graphite products.

### MARKET OUTLOOK AND NEXT STEPS

GCM is making strong progress on its customer qualification strategy, with clear market signals validating the relevance and potential of VHD Graphite in high-performance thermal applications. While formal sales contracts will follow successful product testing and acceptance, this stage of engagement represents tangible evidence of market demand and a critical step forward in GCM's commercialisation strategy.

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### Authorisation

The provision of this announcement to the ASX has been authorised by the Board of directors of Green Critical Minerals Limited.

### Forward Looking Statements

This announcement contains general information about GCM's activities current as at the date of the announcement. The information is provided in summary form and does not purport to be complete.

This release contains estimates and information concerning our industry and our business, including estimated market size and projected growth rates of the markets for our products. Unless otherwise expressly stated, we obtained this industry, business, market, and other information from reports, research surveys, studies and similar data prepared by third parties, industry, and general publications, government data and similar sources. This announcement also includes certain information and data that is derived from internal research. While we believe that our internal research is reliable, such research has not been verified by any third party. Estimates and information concerning our industry and our business involve a number of assumptions and limitations. Although we are responsible for all of the disclosure contained in this announcement and we believe the third-party market position, market opportunity and market size data included in this announcement are reliable, we have not independently verified the accuracy or



completeness of this third-party data. Information that is based on projections, assumptions and estimates of our future performance and the future performance of the industry in which we operate is necessarily subject to a high degree of uncertainty and risk due to a variety of factors, which could cause results to differ materially from those expressed in these publications and reports.

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<sup>i</sup> For completeness, noting this relates to a request for application sample testing, GCM does not consider the identity of the customer (Australian private company in the electronics and electrical sector) to be information that a reasonable person would expect to have a material effect on the price or value of GCM's securities. This announcement contains all material information relevant to assessing GCM's engagement with the customer, and is not misleading by omission.