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Beowulf Mining Plc

("Beowulf" or the "Company")

GAMP PFS Delivers Outstanding Economics and Growth Potential

Beowulf (AIM: BEM; Spotlight: BEO) and its wholly owned Finnish subsidiary Grafintec Oy ("Grafintec") are pleased to announce the successful completion of its Pre-Feasibility Study ("PFS") and receipt of the final PFS report, confirming the Graphite Anode Materials Plant's ("GAMP") potential as a low-cost, high-margin producer of anode material for the European lithium-ion battery sector. The project economics were released on 10 March 2025 (see full RNS at polaris.brighterir.com/public/beowulf_mining_plc/news/rns/story/w6o4n9w). Further, a video providing additional detail about the GAMP is available at https://beowulfmining.com/grafintec-technical-summary-presentation-april-2025/.

Grafintec aims to become a leading independent producer of high-performance anode material, supporting the expanding lithium-ion battery industry across Europe. The Company remains in advanced discussions with several promising Finnish industrial areas to secure a long-term site for the plant. The site selection and agreement are planned to be completed in the coming months. Finland offers the ideal location for GAMP, with access to low-cost renewable energy, strong government and local support, a highly skilled workforce, and proximity to key European markets.

Grafintec's phased development strategy is designed to establish a scalable, modular plant that will initially produce 25,000 tonnes of Coated Spherical Purified Graphite ("CSPG") annually, enough to supply approximately 357,000 electric vehicles ("EVs") per year. The company plans to scale up production to 75,000 tonnes per year in Phase 2, enabling the powering of over 1 million EVs annually. The economics from the initial Phase 1 development are extremely encouraging, with a post-tax Net Present Value using a discount rate of 8% ("NPV_8") of €924 million and a post-tax IRR of 37% over 25 years. The initial capital cost of €225 million has a pay-back period of just 3 years from initial production, and the project generates €120 million in free cash flow ("FCF") and €150 million in EBITDA annually at full production. Longer term, the expansion to 75,000 tonnes per year brings substantial upside, with a projected post-tax NPV_8 of €2.2 billion and €361 million of FCF per year once fully scaled, underlining Grafintec's strong growth potential and its position to meet the increasing demand for high-performance anode materials.

Grafintec is developing a very cost-effective and environmentally sustainable process, powered by Finland's abundant, low-cost renewable energy and avoiding the use of highly toxic reagents and huge energy demand of competing technologies. The GAMP process involves readily available reagents primarily sodium hydroxide ("NaOH") and sulphuric acid, low to moderate temperatures and optimisation work has demonstrated the ability to recycle significant proportions of reagents, both reducing costs and environmental impacts. These factors contribute to the GAMP's highly competitive operational cost of just €2,381 per tonne.

Grafintec's growth potential goes beyond GAMP's initial production. While initial graphite feedstock will be sourced from a trusted third-party supplier with decades of proven track-record, Grafintec holds one of Europe's largest flake graphite resources at Aitolampi. This, and other Grafintec projects could be developed in the future to provide feed for the GAMP and develop a fully integrated European graphite supply chain, which strengthens EU's supply security and positions the Company to unlock significant long-term value.

Battery-grade graphite is classified by the EU as a strategic raw material which opens the door to substantial public

support, un-locking streamlined permitting processes and access to capital. Grafintec intends to apply for strategic project status and continues to review a range of support mechanisms including grants and tax incentives. Grafintec is also in discussions with a number of potential strategic partners to support the funding and development of the GAMP.

Ed Bowie, Chief Executive Officer of Beowulf, commented:

"Raw material security has never been more critical. China dominates the graphite market and has already placed restrictions on the export of graphite products. With the ratcheting up of trade tariffs between China and the US, the importance of secure, domestic supply chains has never been more important. The conclusion of the GAMP PFS positions Grafintec to play a key role within the European battery market supply chain."

Rasmus Blomqvist, Managing Director of Grafintec, commented:

"We are excited to announce the successful completion of the PFS for the GAMP project, which confirms Grafintec's position as a low-cost, high-margin producer of anode material. Our phased development approach sets the stage for scalable production, supported by Finland's low-cost renewable energy and an innovative process with lower reagent and energy usage, which should enable us to become one of the most competitive and environmentally responsible suppliers in the industry."

Substantial test-work undertaken in 2024

Grafintec, supported by lead consultant for the PFS, Dorfner Anzaplan GmbH ("Anzaplan"), successfully completed a comprehensive series of bench-scale tests to optimise its GAMP process for producing high-performance graphite anode material tailored for Lithium-Ion Batteries ("LIBs"). This work marked a significant step toward establishing a cost-efficient, scalable, and environmentally responsible anode material supply chain.

The three-step GAMP Process (Spheronisation, Purification, and Coating), shown in the figure below, transforms mined graphite concentrate into CSPG, the essential anode material for LIB's.

High-grade graphite concentrate is the primary feedstock for the GAMP. The grade and quality (lack of impurities) of the concentrate is critical to reducing the costs associated with the purification stage in the process. Grafintec has a long-standing relationship with a graphite miner with a multi-decade track record and the ability to provide sufficient volumes of high-grade concentrate. A six-tonne sample from this producer was used for the test-work.

The process for converting graphite concentrate into CSPG is as follows:

- **Spheronisation:** milling process to convert concentrated flake graphite into uniform particles, spherical graphite ("SG"). The process produces two SG products, a medium SG product of 18 microns ("SG18") with a yield of 47% and a fine SG product of 8 microns ("SG8") with yield of 13%. The remaining material is high grade fine graphite which may have a number of industrial applications.
- **Purification:** upgrading SG from approximately 95% to greater than 99.95% fixed carbon content through hydrometallurgical process. This process involves caustic (sodium hydroxide, NaOH) baking with a series of caustic and acid leaching.
- **Coating:** the purified SG is blended with petroleum needle coke and heated in a furnace to form a thin layer of carbon material around the purified SG producing CSPG. The coating process enhances the physical and electrochemical properties of the anode material.

Highlights of the spheronisation test-work include:

- High-performance spheronised graphite ("SG") with excellent tap densities: SG18 (0.95 g/cm³) and SG8 (0.84 g/cm³), ideal for EV and consumer electronics respectively
- Strong process efficiency with a combined product yield of 61%, exceeding the target and ensuring a high material recovery rate.

The purification process was also significantly improved, leading to:

- Ultra-pure battery-grade graphite achieved with up to 99.99% fixed carbon content ("Cg"), surpassing the industry

- Ultra-pure battery-grade graphite achieved with up to 99.99% fixed carbon content ("Cg"), surpassing the industry benchmark of 99.95% Cg.
- A 45% reduction in operating costs, driven by a 25% cut in NaOH use, an 82.5% reduction in sulphuric acid, and a 33% drop in baking temperature.
- Substantial environmental benefits, with lower chemical usage and energy consumption directly reducing emissions and waste.

In 2024, Grafintec also developed a wastewater treatment flowsheet that sets a new standard in sustainability. This advanced process recovers over 90% of sodium hydroxide from caustic wastewater, allowing it to be reused within the production cycle. This significantly lowers the reagent costs and supports the production of battery-graphite with 99.96% fixed carbon, ideal for battery applications.

In addition, the process generates limestone as a valuable by-product, which can be used in the process to neutralise acidic wastewater. The high quality of this Limestone not only enhances internal process sustainability but also presents an exciting commercial opportunity, as excess volumes may be suitable for external sale unlocking a new potential revenue stream for the project.

This closed-loop system underscores Grafintec's commitment to environmental responsibility, cost efficiency, and innovation, further strengthening the company's position as a forward-thinking leader in the battery materials sector.

Promising results from coating optimisation test-work

Grafintec has completed the first stage of its coating optimisation programme, delivering strong results that further advance the company's graphite anode material. Testing on three SPG samples has confirmed:

- Successful petroleum needle coke coating, achieving a BET surface area of 1.4 metres squared per gramme ("m^2/g") and a tap density of 1.07 gramme per centimetre cubed ("g/cm^3") meeting industry standards for CSPG. These are key indicators of high-performance anode material.
- Positive electrochemical performance, demonstrating clear potential for application in LIB. In standard full-cell ("PAT cell") formation tests, all three coated samples delivered first cycle efficiencies between 94.2% and 94.5%, matching the performance of leading industry reference materials.

Building on these encouraging results, the next phase of test-work will focus on refining coating conditions to further enhance BET, tap density, and electrochemical performance.

GAMP development plan update

With the completion of a highly positive PFS for the GAMP project, Grafintec is well-positioned to leverage its lower-energy, environmentally friendly graphite production process. The next phase will include pilot testing and a Definitive Feasibility Study ("DFS"), as the company actively seeks strategic partners. In parallel, Grafintec is advancing its commitment to environmental sustainability, with the conclusion of its Environmental and Social Impact Assessment ("ESIA"), followed by the submission of its Environmental Permit application, and the expected approval of the Environmental Permit in 2026, ensuring that the GAMP project aligns with both industry standards and the EU's green objectives.

The PFS has highlighted key opportunities to further optimize the economics of the GAMP project. Our upcoming pilot testing will focus on refining spheroidization, purification, and coating processes to maximize yield while further reducing water and reagent consumption. These pilot campaigns are designed to fine-tune process conditions, validate scalability, and produce premium-quality CSPG samples for customer qualification, ensuring that our product consistently meets the highest industry standards and supports the growing demand for sustainable, high-performance anode materials within the EU.

In addition to enhancing the yield of its CSPG, Grafintec is actively exploring innovative ways to add value to the graphite fines produced as a by-product from the spheronisation process, which represents nearly 40% of the total output. By unlocking the full potential of this by-product, Grafintec stands to significantly improve the economics of the project, driving even greater profitability and sustainability.

The fine by-product presents exciting opportunities in various high-value markets. For example, it could be utilised in the production of advanced materials for the defence industry. Graphite's unique properties, such as high thermal

conductivity, electrical conductivity, light weight, and strength makes it a potential attractive material for a range of defence applications including advanced armour materials and military electronics. Additionally, graphite can be incorporated into thermal management systems for defence equipment, improving their performance and durability in high-stress environments.

By leveraging its fine graphite by-product for these high-tech defence applications, Grafintec has the potential to tap into a highly specialised market, further diversifying its product portfolio and positioning itself as a key player in the global graphite supply chain. This would not only bolster Grafintec's economic outlook but also expand its reach into industries with significant growth potential.

Qualified Person Review:

The technical information contained in this news release has been reviewed and approved by Derick R. de Wit, B-Tech. (Chem Eng), FSAIMM, FAusIMM, an independent qualified person ("QP", as defined in NI 43-101) from Anzaplan, responsible for the overall PFS of the GAMP.

Anzaplan specialises in process design and engineering services for graphite beneficiation projects. The Company offers advanced graphite evaluation services for high value applications including strongly growing markets such as anode materials in lithium-ion batteries. Starting with the initial characterization of the graphite ore through development of a beneficiation process to obtain a high- quality flake graphite concentrate, shaping and purification into battery grade spherical graphite, characterization of electrochemical performance and testing of lithium-ion cells.

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About Beowulf Mining plc

Beowulf Mining is a mining company with main activities in exploration and development in Sweden, Finland, and Kosovo. Beowulf's portfolio is diversified by commodity, geography, and stage of development of the projects, and consists primarily of iron ore, graphite, gold, and base metals. Beowulf Mining is headquartered in London, England.

Cautionary Statement Regarding Forward-Looking Statements

This RNS contains forward-looking statements. Forward-looking statements are subject to risks, uncertainties and assumptions. Forward looking statements include, among other things, statements concerning the construction and operation of the GAMP production facility and the costs and sales associated with them. The Company cautions that there are certain factors that could cause actual results to differ materially from the forward-looking information that has been provided. The reader is cautioned not to put undue reliance on this forward-looking information, which is not a guarantee of future performance and is subject to a number of uncertainties and other factors, many of which are outside the control of the Company; accordingly, there can be no assurance that such suggested results will be realized.

The Company's ability to successfully construct and operate a commercial-scale plant capable of producing CSPG in quantities consistent with the GAMP`s business plan is subject to (a) the Company's ability to raise additional capital in the future including the ability to utilize existing financing facilities; (b) spot price and long-term contract price of CSPG; (c) risks associated with our operations and the operations of our partners; (d) government regulation of the graphite and energy storage battery industry; (e) world-wide graphite and anode materials supply and demand, including the supply and demand for energy storage batteries; (f) regulatory and legal or other problems the Company may encounter in the jurisdictions where the Company operates or intends to operate, including but not limited to Finland; (g) the ability of the

jurisdictions where the Company operates or intends to operate, including but not limited to Finland; (g) the ability of the Company to enter into and successfully close acquisitions or other material transactions.

Statements and assumptions made in this document with respect to the Company's current plans, estimates, strategies and beliefs, and other statements that are not historical facts, are forward-looking statements about the future performance of Beowulf. Forward-looking statements include, but are not limited to, those using words such as "may", "might", "seeks", "expects", "anticipates", "estimates", "believes", "projects", "plans", strategy", "forecast" and similar expressions. These statements reflect management's expectations and assumptions in light of currently available information. They are subject to a number of risks and uncertainties, including, but not limited to , (i) changes in the economic, regulatory and political environments in the countries where Beowulf operates; (ii) changes relating to the geological information available in respect of the various projects undertaken; (iii) Beowulf's continued ability to secure enough financing to carry on its operations as a going concern; (iv) the success of its potential joint ventures and alliances, if any; (v) metal and mineral prices, particularly as regards graphite. In the light of the many risks and uncertainties surrounding any mineral project at an early stage of its development, the actual results could differ materially from those presented and forecast in this document. Beowulf assumes no unconditional obligation to immediately update any such statements and/or forecast.

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