

## Graphite One 2021 Year in Review

Completed Financing Totaling \$30 Million;

Continues to Rapidly Advance the Largest Known,  
Highest Grade Graphite Deposit in the United States

**December 23, 2021 – Vancouver, British Columbia –Graphite One Inc. (GPH: TSX-V; GPHOF: OTCQX) (“Graphite One” or the “Company”)** is pleased to provide the Company’s 2021 year in review. It has been a momentous year for Graphite One as the Company continues to rapidly advance the largest known and highest-grade graphite deposit in the United States.

“Despite the challenges of COVID on the business climate and all aspects of operations, Graphite One raised more than CA\$30 million in capital, completed a successful drill program to confirm the Company’s projections of a long mine life based on drilling just 20% of the projected trend of the graphite mineralization, and continued to progress R&D efforts on multiple advanced graphite materials that will serve essential renewable energy and technology sectors,” said Anthony Huston, Graphite One’s CEO.

“Additionally, the surge in graphite demand in the EV and energy storage sectors, coupled with new U.S. Government strategic focus on Critical Mineral development in the comprehensive infrastructure package, plus concern over materials supply chain disruptions is a strong signal that momentum is shifting in a way that perfectly aligns with Graphite One’s objectives of being an integrated supply chain solution for advanced graphite materials.”

Commenting on recent Tesla statements on EV supply chains, Mr. Huston added: “Elon Musk said recently there is currently no graphite anode production in the U.S. He’s right – and our goal at Graphite One is to change that.

I agree with Jim Farley, the CEO of Ford Motor Co., who recently said: ‘We have to bring battery production here, but the supply chain has to go all the way to the mines. Are we going to import lithium and pull cobalt from nation-states that have child labour and all sorts of corruption, or are we all going to

get serious about mining? We have to solve these things, and we don't have much time.”

As Graphite One anticipates it is on track to complete its Pre-Feasibility Study (“PFS”) in Q1 2022, the Company reports progress along the following fronts:

### **2021 Financing**

From January 1, 2021 to date, total gross proceeds from three financings plus the exercise of options, warrants and broker warrants<sup>1</sup> totaled CA\$30.2 million.

### **2021 Drill Program**

In the Company's 2021 Drill Program, a total of 2,052 meters were drilled, including 1,695 meters of HQ core drilling and 357 meters of sonic drilling.<sup>2</sup> Results are expected to be released in Q1 2022 when data analysis is completed. The drill program will generate additional information to update the resource model and provide technical data now expected to be available in time to be included in the PFS.

With exploration to date on only 20% of the projected trend of graphite mineralization supporting the potential for a long mine life, the Graphite Creek deposit continues to show potential to be an essential long-life component of the graphite supply chain.

While all required drilling for the PFS is completed, the Graphite Creek deposit remains open at depth and along strike both east and west. “Given the demand growth every end-user mentions to me, and their concerns about surety of supply,” said Mr. Huston, “we're putting a priority on demonstrating that Graphite Creek is a robust, low-risk source for graphite far into the 21st Century.” The Company expects to initiate the Project's Feasibility Study in Q1 2022 including plans to conduct a 2022 drill program

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<sup>1</sup> See press releases - "Graphite One Announces Closing CA\$10 million in Financings and Awarding of Options" (February 23, 2021), "Graphite One Announces Closing of \$10.23 Million in Private Placement Offering" (August 12, 2021) and "Graphite One Announces Closing of Second Tranche of \$998,000 in Private Placement Offering" (September 24, 2021).

<sup>2</sup> See press release – "Graphite One Completes 2021 Field Program at 100% Owned Graphite Creek Deposit, Alaska (October 13, 2021).

focused on infill drilling and step-out drilling with the aim of increasing this long-life resource.

### **Advanced Materials R&D Pipeline**

During 2021, further progress was seen in materials development in the anode space as well as other markets for advanced graphite material.

“With the World Bank and International Energy Agency (IEA)<sup>3</sup> projecting graphite demand to rise by 25 times between 2020 and 2040 (IEA) or more than 490% from 2020 to 2050 (World Bank)<sup>4</sup> -- and new efforts to simultaneously build out energy storage systems underway, multiple uses of the same renewable battery technologies are beginning to compete for the same material supply,” Mr. Huston noted. “As a result, global graphite shortfalls initially projected for 2024 or 2025 are now predicted to begin as early as 2022.”<sup>5</sup>

### **Battery-Grade Anode**

Graphite One’s technology development partner, American Energy Technologies Co. of Arlington Heights, Illinois (“AETC”) continues its work on developing battery anode-ready grade materials from the PFS concentrate sample it received from Graphite One in June 2021.

### **Graphite Foam Fire Suppressant**

Against the backdrop of a 2020 National Defense Authorization Act (NDAA) requirement to phase out Aqueous Film Forming Foams (AFFF) by 2024, and with commercially available PFAS-free foam (PFF) products not meeting MIL spec MIL-F-24385F, Graphite One and AETC have worked with NAVAIR’s Naval Air Warfare Center Weapons Division (“NAWCWD”) at China Lake, California, to pursue PFS-level validation of technology based on use of expandable +80 mesh graphite from Graphite Creek – formulated into a pigment component – to extinguish Class B fuel fires.

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<sup>3</sup><https://www.iea.org/reports/the-role-of-critical-minerals-in-clean-energy-transitions/mineral-requirements-for-clean-energy-transitions>

<sup>4</sup> <https://pubdocs.worldbank.org/en/961711588875536384/Minerals-for-Climate-Action-The-Mineral-Intensity-of-the-Clean-Energy-Transition.pdf>

<sup>5</sup> <https://money.usnews.com/investing/news/articles/2021-12-15/china-ev-battery-makers-grapple-with-graphite-squeeze>

Tests conducted in December 2021 by a team of firefighting professionals at NAWCWD/China Lake showed that the foam formulation containing Graphite Creek material can extinguish Class B fires in accordance with Mil spec standards.

With AFFF and PFF soon unavailable for use in aircraft emergencies involving Class B fires at military installations or airports, this represents a possible near-term commercialization opportunity.

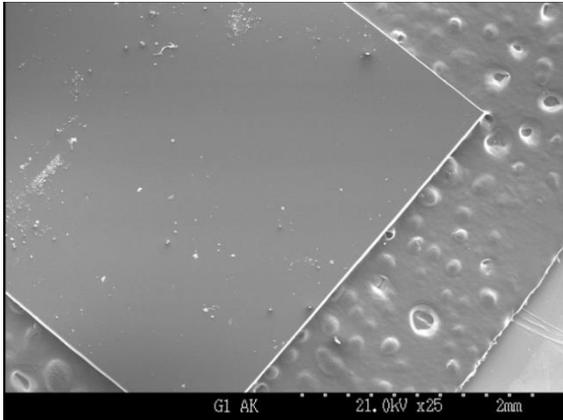
### **Graphite One Synthetic Diamond R&D**

R&D work with the +100-mesh fraction of purified Graphite Creek PFS material successfully produced synthetic diamonds suitable for use in cutting tool applications including hard surface coatings in drill bits, cutting and grinding discs, tips of metalworking tooling and other instruments designed for increased abrasion wear.

After successful production of synthetic diamond dust, the Graphite One PFS material was used to synthesize a gemstone-quality crystal, and ultimately – doped with boron and nitrogen – to synthesize blue diamonds, which have an increased hardness and engineered semiconductor properties.



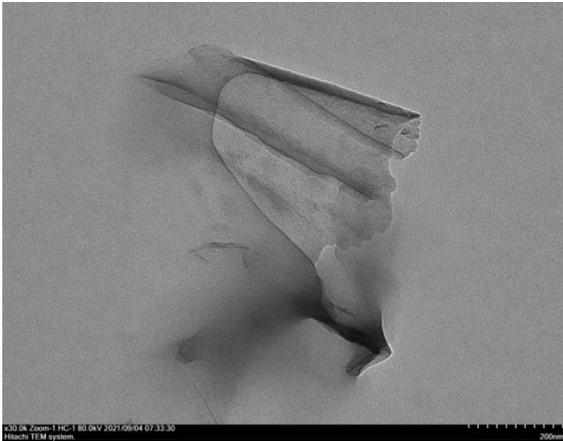
In a subsequent study, this blue diamond was sliced via laser and polished to a surface roughness radius of 2 nm to form substrates for the synthesis of cultured semiconductor grade diamonds. A Scanning Electron Microscopy image of the plate made from Graphite One's PFS flake is shown below.



Graphite One is currently working with partners including Stanford University, Texas Tech University, Defense Logistics Agency, U.S. Navy and others to establish several targeted technology demonstration projects with academia, industry, and the U.S. Government to test the properties of synthetic diamonds generated from Graphite Creek flake precursor in mechanical, semiconductor, thermal management, and sensor applications.

### **Graphite One Graphene Material Produced by Yale and Emory Universities**

Graphite One submitted samples of its +50 mesh PFS material for evaluation as a precursor to make graphene with intended use in advanced water purification technologies. R&D teams at Yale University and Emory University are currently involved in making graphene from Graphite One's PFS flake. One of the graphene samples generated from the Graphite One material is depicted by Transmission Electron Microscopy below.



“Our advanced graphite material work is driven by Graphite One’s commitment to serve the broad range of tech material applications that depend on graphite engineered to exacting specifications,” said Mr. Huston. “Battery grade anode material for EVs and lithium-ion batteries will be the core of our commercial value, but we know that there is even more graphite can do to meet urgent demand in sectors ranging from environmentally-safe fire suppression to transformational technologies in the semiconductor sector and the new world of graphene. Each one of these product lines underscores the value of Graphite One’s integrated supply chain solution – as well as our belief in the mission of our Company to provide the tech materials that drive global ingenuity.”

### **Grant of Options**

The Company announces that the board of directors has approved an incentive stock option grant to directors, officers and consultants of the Company of an aggregate of 3,387,429 options of Graphite One (“Options”) in accordance with the Company’s shareholder approved stock option plan. Each Option is exercisable at a price of \$1.39 per share, all vesting immediately and expiring on December 22, 2026. All Options are subject to a restricted period that expires four months and a day following the date of issuance.

Upon the granting of the Options described above, Graphite One will have 8,352,429 Options outstanding, which represents approximately 9.8% of the 85,524,287 common shares of the Company currently outstanding. Graphite One’s stock option plan limits the issuance of Options to no more than 10% of the outstanding common shares.

### **About Graphite One Inc.**

GRAPHITE ONE INC. (GPH: TSX-V; GPHOF: OTCQB) continues to develop its Graphite One Project (the "Project"), whereby the Company could potentially become an American producer of high grade Coated Spherical Graphite ("CSG") that is integrated with a domestic graphite resource. The Project is proposed as a vertically integrated enterprise to mine, process and manufacture high grade CSG primarily for the lithium-ion electric vehicle battery market. As set forth in the Company's Preliminary Economic Assessment, potential graphite mineralization mined from the Company's Graphite Creek Property, is expected to be processed into concentrate at a graphite processing plant. The proposed processing plant would be located on the Graphite Creek Property situated on the Seward Peninsula about 60 kilometers north of Nome, Alaska. CSG and other value-added graphite products, would likely be manufactured from the concentrate at the Company's proposed graphite product manufacturing facility, the location of which is the subject of further study and analysis. The Company intends to make a production decision on the Project once a feasibility study is completed.

On Behalf of the Board of Directors

"Anthony Huston" (signed)

For more information on Graphite One Inc., please visit the Company's website, [www.GraphiteOneInc.com](http://www.GraphiteOneInc.com) or contact:

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