



Management's Discussion and Analysis

For the three-month period ended  
June 30, 2023

Dated: August 11, 2023

(Expressed in Canadian Dollars)

## Introduction

This Management Discussion and Analysis (“MD&A”) is dated August 11, 2023, and is in respect of the three-month period ended June 30, 2023. The following discussion of the financial condition and results of operations of Zentek Ltd. (the “Company”) constitutes management’s review of the factors that affected the Company’s financial and operating performance for the three-month period ended June 30, 2023.

This discussion should be read in conjunction with the Company’s condensed interim consolidated financial statements and corresponding notes to the consolidated financial statements for the three-month period ended June 30, 2023, the most recently completed fiscal period, and MD&A and audited consolidated annual financial statements for the year ended March 31, 2023. The Company’s condensed interim consolidated financial statements have been prepared in accordance with International Accounting Standard 34 – *Interim Financial Reporting* (“IAS 34”) as issued by the International Accounting Standards Board (“IASB”) and have been condensed with certain disclosures from the Company’s audited consolidated financial statements for the year ended March 31, 2023 (the “Annual Financial Statements”) omitted. Unless otherwise stated, all amounts discussed herein are denominated in Canadian dollars which is the Company’s functional and reporting currency.

Additional information relating to the Company can be found under the Company’s profile on SEDAR at [www.sedar.com](http://www.sedar.com).

## Forward Looking Statements

This MD&A and the documents incorporated into this MD&A contain “forward-looking statements” and “forward-looking information” within the meaning of applicable securities laws (forward-looking information and forward-looking statements being collectively hereinafter referred to as “forward-looking statements”). Such forward-looking statements are based on expectations, estimates and projections as at the date of this MD&A or the dates of the documents incorporated herein, as applicable. Any statements that involve discussions with respect to predictions, expectations, beliefs, plans, projections, objectives, assumptions or future events or performance (often but not always using phrases such as “expects” or “does not expect”, “is expected”, “anticipates” or “does not anticipate”, “plans”, “budget”, “scheduled”, “forecasts”, “estimates”, “believes” or “intends”, or variations of such words and phrases, or stating that certain actions, events or results “may” or “could”, “would”, “should”, “might” or “will” be taken, occur or be achieved) are not statements of historical fact and may be forward-looking statements and are intended to identify forward-looking statements. These forward-looking statements include, but are not limited to, statements and information concerning: the intentions, plans and future actions of the Company; statements relating to the business and future activities of the Company after the date of this MD&A; market position, ability to compete and future financial or operating performance of the Company after the date of this MD&A; statements based on the audited and unaudited financial statements of the Company; anticipated developments in operations; the timing and amount of funding required to execute the Company’s development and business plans; intellectual property expenditures; capital and exploration and development expenditures; the effect on the Company of any changes to existing legislation or policy; government regulation of patent law or mining operations; the length of time required to obtain permits, certifications and approvals; markets for the Company’s graphene related products and the ability to supply those markets; the success of exploration, development and mining activities; the geology of mineral properties; environmental risks; the availability of labour; demand and market outlook for precious metals and the prices thereof; progress in development of mineral properties; estimated budgets; currency fluctuations; requirements for additional capital; government regulation; limitations on insurance coverage; the timing and possible outcome of litigation in future periods; the timing and possible outcome of regulatory and permitting matters; goals; strategies; future growth; planned business activities and planned future acquisitions; the adequacy of financial resources; and other events or conditions that may occur in the future.

Forward-looking statements are based on the beliefs of the Company's management, as well as on assumptions, which such management believes to be reasonable based on information currently available at the time such statements were made. However, by their nature, forward-looking statements are based on assumptions and involve known and unknown risks, uncertainties, and other factors that may cause the actual results, performance, or achievements to be materially different from any future results, performance, or achievements expressed or implied by the forward-looking statements. Forward-looking statements are subject to a variety of risks, uncertainties, and other factors that could cause actual events or results to differ from those expressed or implied by the forward-looking statements, including, without limitation, those risks outlined under the heading *Risk and Uncertainties* in this MD&A.

The list of risk factors set out in this MD&A is not exhaustive of the factors that may affect any forward-looking statements of the Company. Forward-looking statements are statements about the future and are inherently uncertain. Actual results could differ materially from those projected in the forward-looking statements as a result of the matters set out or incorporated by reference in this MD&A generally and certain economic and business factors, some of which may be beyond the control of the Company, including, among other things, potential direct or indirect operational impacts resulting from infectious diseases or pandemics, such as the COVID-19 outbreak, and other factors not currently viewed as material that could cause actual results to differ materially from those described in the forward-looking statements. In addition, recent unprecedented events in the world economy and global financial and credit markets as a consequence of the COVID-19 outbreak have resulted in high market and commodity volatility and a contraction in debt and equity markets, which could have a particularly significant, detrimental, and unpredictable effect on forward-looking statements. The Company does not intend and does not assume any obligation, to update any forward-looking statements, other than as required by applicable law. For all of these reasons, the Company's securityholders should not place undue reliance on forward-looking statements.

## **Company Overview and Discussion of Operations**

The Company was incorporated in Ontario, Canada as 1774119 Ontario Limited on July 29, 2008. Pursuant to Articles of Amendment dated November 24, 2009, the Company changed its name to Zenyatta Ventures Ltd. On January 1, 2019, the Company filed Articles of Amendment changing its name from "Zenyatta Ventures Ltd." to "ZEN Graphene Solutions Ltd." On October 27, 2021 (effective October 28, 2021), the Company filed Articles of Amendment changing its name from "ZEN Graphene Solutions Ltd." to "Zentek Ltd." The common shares of the Company trade on the TSX Venture Exchange ("TSXV") under the symbol "ZEN" and in the United States on the Nasdaq Capital Market ("NASDAQ") under the symbol "ZTEK".

The Company commenced operations as a junior mineral exploration company focused primarily on mineral deposits in Northern Ontario, Canada. The Company was actively engaged in exploring mining projects and held an interest in exploration licenses on properties located north of Lake Superior and west of James Bay in Northern Ontario, Canada in the "Arc of Fire" area. The properties, located north of Lake Superior and southwest of James Bay in northeastern Ontario, Canada, were unpatented, non-contiguous, and consisted of nine claim blocks, including 234 claims comprised of 3,549 claim units over a total of 56,784 ha.

Within such claim blocks, the Company continued to hold a 100% undivided interest in Claim Block 4F, comprised of 521 mining claims (461 single-cell claims and 60 boundary-cell claims), which hosts an igneous-hosted, fluid-derived graphite deposit (the "Albany Graphite Project"). The Company did extensive work to determine potential uses for the graphite materials to be extracted from the Albany Graphite Project, including engaging in testing and studies on graphene materials.

In May 2018, the Company began to focus resources on the research and development of graphene and related applications, which was supported by shareholders of the Company who voted in favour of a new Board of Directors with an interdisciplinary team to augment key management personnel with expertise in business, science, marketing, and government relations.

In February of 2020, the Company opened a research facility in Guelph, Ontario, to support its university and industrial partners' ongoing research and to scale-up production of graphene products. Subsequently, the COVID-19 pandemic halted research at the Company's collaborators' laboratories. The Company pivoted to focus its resources to develop graphene-based solutions for the fight against COVID-19.

Pursuant to a License Agreement dated September 22, 2020, between the Company and the University of Guelph, the Company holds the exclusive global rights to intellectual property regarding an electrochemical exfoliation ("ECE") process to produce graphene oxide ("GO").

On September 22, 2020, the Company announced, based on the results from a report to the Company dated September 18, 2020, from the ImPaKT Centre at the University of Western Ontario entitled "*Zen Graphene – Lab Test Report No. Z03-092020*", the development and successful testing of a now patented GO/silver compound that showed to be 99% effective against COVID-19 virus a minimum of 35 days after application of the coating to N95 mask material. On December 22, 2020, the Company announced the successful testing at the Department of Microbiology at Mount Sinai Hospital/University Health Network of the GO/silver compound that showed to be 99.9% effective against both gram-positive and gram-negative aerobic bacteria as well as against fungus/yeast, based on a report to the Company dated December 18, 2020 entitled "*Evaluation of Graphene Oxide with Silver Cations (GO-Ag+) as an Antibacterial Agent against Respiratory Pathogens*", which stated that if the compound could be shown to be safe and effective, it could provide a breakthrough alternative therapy for the practices of family medicine, Otolaryngology, Ophthalmology and intensive care units.

The Company has filed four provisional patent applications relating to its antimicrobial coating, and on April 13, 2021, announced the brand name ZenGUARD ("ZenGUARD™") for such coating. On September 27, 2022, the Company announced that its patent application directed to the ZenGUARD™ technology for use on personal protective equipment ("PPE") and heating, ventilation, and air conditioning ("HVAC") had been allowed in Canada including all 54 claims made in the application, and on December 6, 2022, the patent was granted with a term until September 20, 2041.

On October 18, 2021, the TSXV changed the Company's classification from a "mining issuer" to an "industrial, technology, or life sciences issuer", which was approved by the shareholders of the Company on September 27, 2021, in accordance with the rules and policies of the TSXV.

On November 29, 2021, the Company announced that it had been issued a Medical Device Establishment License ("MDEL") from Health Canada (license number 18823) for the manufacture and distribution of any Class I medical devices, including any such devices with or without the ZenGUARD™ coating.

The Company is now an intellectual property development and commercialization company focused primarily on commercializing ZenGUARD™, as well as on the development of certain rapid detection technologies and other nanomaterials-based technologies.

On May 23, 2023, the Company completed the transfer of the ownership over the Albany Graphite Project to a wholly-owned subsidiary of the Company, Albany Graphite Corp. ("AGC") pursuant to a property purchase agreement dated April 24, 2023 as described in more detail under the heading "*Albany Graphite Project*" below. The Company does not require materials extracted from the Albany Graphite Project for its current business plans, although such materials could hold significant value to the Company in the future.

## Current Business

### *ZenGUARD™ Antimicrobial Compound*

During the reporting period, the Company continued to advance toward commercial production of its ZenGUARD™ antimicrobial coating at industrial scale for application to non-woven, spunbond polypropylene material to be used in surgical mask manufacturing and potentially on other materials and products including HVAC filters. Based on reports from GAP EnviroMicrobial Services Ltd. (“GAP Labs”) dated May 3, 2021, the addition of ZenGUARD™ coating to surgical masks has been shown to increase the bacterial and viral filtration efficiency of masks and acts as an antimicrobial agent, providing increased protection when compared to similar uncoated masks.

The sale of ZenGUARD™-coated PPE masks received Health Canada authorization on September 22, 2021, under Interim Order No.2 - #329587 - Respecting the Importation and Sale of Medical Devices for Use in Relation to COVID-19. On September 23, 2021, The Company announced that it had delivered and generated revenue from its first shipment of ZenGUARD™ antimicrobial coating.

On November 29, 2021, the Company announced that it had been issued a MDEL from Health Canada for the manufacture and distribution of any Class I medical devices, allowing the Company to work with any manufacturers and distributors inside and outside of Canada to bring ZenGUARD™ surgical masks and, potentially, other PPE to the Canadian market. The MDEL also allows the Company to produce and sell its own Class I medical device PPE products.

On April 12, 2022, the Company announced that it entered into a Reciprocal Supply Agreement dated March 31, 2022, with EkoMed Global Inc. (“EkoMed”), a globally integrated manufacturer and distributor of PPE, pursuant to which (i) the Company will sell quantities of ZenGUARD™ coating to EkoMed for use initially on EkoMed’s surgical masks, and potentially other PPE in the future, including N95 and KN95 type masks; and (ii) the Company will purchase surgical masks manufactured by EkoMed, to be treated with ZenGUARD™ coating and resold by the Company.

On May 13, 2022, the Company announced that Mark’s Work Wearhouse had placed an initial order for ZenGUARD™-coated masks to be sold at select stores across Canada, and online.

Effective July 29, 2022, Trebor Rx Corp. (“Trebor”) entered receivership, effectively terminating the supply agreement with Trebor. Management of the Company determined that the termination of the Trebor supply agreement would not result in a material loss, as the Company had already entered into a Reciprocal Supply Agreement with EkoMed and was already in advanced negotiations with Viva Healthcare Packaging (Canada) Ltd. (“VMedCare”) for an additional supply agreement, and held an MDEL allowing the Company to work with other manufacturers and distributors inside and outside of Canada and to produce and sell its own Class I medical device PPE products. Furthermore, the Company received a quantity of masks already manufactured by Trebor, the value of which set-off amounts owed by Trebor in royalties, resulting in a non-material amount of royalties remaining owing to the Company. Management of the Company currently expects that the agreements with EkoMed and VMedCare will result in sufficient production capacity to meet the current demand which has been impacted by. Changes in COVID mandates globally and a significant inventory build by medical device companies and hospitals near the end of the pandemic. We expect these inventory build-ups to begin to roll off in late 2023 and into 2024 and open new sales opportunities.

On September 7, 2022, the Company announced that it had entered into a Manufacturing and Supply Agreement with VMedCare to manufacture and sell surgical masks enhanced with ZenGUARD™ antimicrobial coating, pursuant to which the Company would provide ZenGUARD™-coated spunbond material to VMedCare, which will be responsible for manufacturing and packaging ZenGUARD™ branded surgical masks. As at the date hereof, the Company has provided ZenGUARD™-coated material to VMedCare for the manufacture of approximately 6,000,000 masks. Approximately 9,000 masks have been manufactured at June 30, 2023 which are awaiting testing results.

On January 19, 2023, the Company announced that it had signed a Distribution Agreement with Southmedic Inc. (“Southmedic”) for the distribution of the Company’s patented ZenGUARD™ surgical masks. Pursuant to the agreement, the parties agreed that Southmedic will be the distributor of ZenGUARD™-enhanced surgical masks to the Canadian hospital, general practitioners, private surgery, long-term care and nursing home markets.

On March 22, 2023, the Company announced that further testing had been completed by SGS Standard Technical Services Co. to determine the extent of the antimicrobial properties and the time required to achieve deactivation of bacteria and virus on ZenGUARD™-coated mask material. Testing showed that ZenGUARD™-coated mask fabric demonstrated over 99.99% antibacterial effectiveness after 1 hour. 260,000 Escherichia Coli (E. Coli) Colony Forming Units (“CFU”) were reduced to under 100 CFU, while untreated control mask samples saw 120,000 E. Coli CFU grow to 2.5 million CFU in 1 hour and 1.1 billion in 8 hours. Additionally, the ZenGUARD™-coated mask fabric demonstrated 86.7% antiviral effectiveness after 1 hour against H1N1 and 99.7% after 8 hours.

On March 30, 2023, the Company announced that it had signed an agreement with Arka BRENStech Pvt Ltd (“BRENStech”), a company incorporated under the laws of the Republic of India (India), pursuant to which BRENStech will act as a local partner to the Company as it seeks to develop business opportunities in India. BRENStech’s primary focus will be to establish sales and distribution opportunities for the Company’s masks and HVAC filters and potentially other products as they become available. The Company also expects that BRENStech will connect the Company with university research facilities, assist with the navigation of applicable regulatory regimes, and source potential manufacturing partners for the Company’s business opportunities in India and globally.

As at June 30, 2023, the Company had an inventory of approximately 1.2 million masks that were manufactured by Trebor, approximately 2.1 million masks that were manufactured by EkoMed, and had provided ZenGUARD™-coated material to VMedCare for the manufacture of approximately 6 million masks.

The Company continues to market its ZenGUARD™ product to be applied to various materials, and has targeted manufacturers, including PPE manufacturers and HVAC filter material companies.

#### *Construction of ZenGUARD™ Industrial Scale Production and Coating Facility*

The Company has installed industrial-scale production equipment to produce the ZenGUARD™ coating formulation at its York Rd., Guelph, Ontario location, as such location is permitted for industrial use. The Company has also purchased coating equipment so the process of applying the ZenGUARD™ coating formulation to spunbond polypropylene for use in surgical masks, HVAC filter materials, other PPE equipment, and potentially other uses, can be completed by the Company on-site.

A preliminary engineering study by Bantrel Co. commenced in January 2021 for graphite purification, GO production, and ZenGUARD™ production equipment. Engineering efforts then shifted to the exclusive development of a ZenGUARD™ production facility due to the long lead time for construction of the proposed purification plant, and the availability of sufficient low-cost GO from an external supplier negating the immediate need to produce and process internally sourced graphite. The preliminary engineering study was further delayed by a fundamental change in the synthesis method in March 2021, resulting in a significantly more simplified design of the proposed ZenGUARD™ production equipment.

Detailed engineering of equipment for manufacturing the ZenGUARD™ compound began in July 2021. On February 28, 2022, the Company announced that the facility was fully licensed and permitted for ZenGUARD™ production and that substantially all equipment had been received to ramp-up industrial scale capacity. After installation, the Company held a grand opening on June 17, 2022.



ISO compliance includes batch production testing that has been ongoing since November 2022 and during Q4 2023, the ZenGUARD™ production equipment successfully passed all required ISO compliance testing and is now available for commercial purposes. Testing timelines were lengthened to accommodate additional new, more flexible operating modes. James Jordan, P.Eng., primarily oversaw construction of the ZenGUARD™ production equipment. As of June 30, 2023, approximately \$2.8M (June 30, 2022: \$2.8M) had been spent by the Company on this objective with no further additional expenditures required.

Delivery of coating line equipment occurred sporadically in the months following May 2022 as a result of unforeseeable supplier delays. As at the date hereof, all required parts have arrived and installation is complete except for safety requirements, including guarding. The effective construction completion date for the coating line was November 30, 2022. Following completion of installation, a period of training and certification began. The coating line was expected to be commercially operational in fiscal Q1 2024; however, further delays in procurement of machine guarding that were not originally anticipated have delayed completion which is now expected to be complete in fiscal Q2 2024. The Company has spent approximately \$1.9M as of June 30, 2023 (June 30, 2022: \$Nil), related to the coating line and expects additional expenditures of approximately \$50,000 for such training, guarding, safety certifications and commissioning.

On May 18, 2023, the Company announced that it had been granted the ISO 13485:2016 Quality Management System certification standard by the British Standards Institution. The Company also received Medical Device Single Audit Program (MDSAP) certificate No. 777967. The ISO and MDSAP are for our Quality Management System and do not include our production facility.

#### *Proposed Construction of Graphene Oxide Production Facility*

In addition to the construction of the ZenGUARD™ industrial scale production and coating equipment, as discussed above, the Company intends to construct a plant to produce GO. The Company believes that the ability to produce GO itself, which is the precursor for the ZenGUARD™ compound, rather than relying on third-party suppliers of GO, will be economically favourable to the Company over the long term, as well as reducing supply and shipping risk. The Company believes that there are three primary reasons it would benefit from an ability to produce GO internally: (i) it should eliminate or significantly reduce supply chain risk; (ii) GO is not a homogeneous substance and by producing its own GO the Company could ensure product consistency; and (iii) the Company believes that the demand for GO is increasing and that a domestic production facility could have the potential to generate product for third-party users of the material.

In connection with the Company's proposed production of GO, the Company has conducted research and development to produce high-quality, few-layer GO via an ECE process designed to be scalable, low cost, low energy, and environmentally friendly. In collaboration with Prof. Aicheng Chen at the University of Guelph, the prototype ECE process was designed, developed, and optimized. A Patent Cooperation Treaty ("PCT") patent application has been filed by Guelph University for the processes to produce expanded graphite and electrochemically exfoliated GO, the exclusive global rights to which has been licensed by the Company pursuant to a License Agreement dated September 22, 2020.

The Company engaged Bantrel Co. to begin engineering work on the proposed GO production plant in January 2021. Potential sites have been investigated. A site has not yet been selected and the permitting process has not yet begun. As of June 30, 2023, the Company has spent \$35,000 (June 30, 2022: \$35,000) in preliminary investigations relating to this project and expects that approximately \$7,500,000 will be required to complete construction of a GO production facility.

The Company estimates that fifteen to eighteen months will be required to complete the construction of a GO production plant from the time of commencement, which is a management estimate based on the expectation of securing an agreement for the purchase of technology from an existing GO producer.

Risks include, but are not limited to, the inability to reach an acceptable agreement for the purchase of such technology, the inability to adapt existing technology to Canadian regulatory requirements, scaling-up from known existing production capacities could become a requirement, and delays as a result of ongoing material and equipment supply shortages.

## Business in Development

### *ZenGUARD™ and Other Research and Development*

The Company continues to seek the most effective, cost-efficient, and scalable process to produce high-quality GO. The production of GO requires a consistent source (or precursor) material for conversion to graphene, which is then applied to various products for enhancement. The Company believes that it has a potential competitive advantage with its interest in AGC and the large and high-quality supply of source material from the Albany Graphite Project, if and when the Company determines it cost effective to use such material.

Advanced testing on potential new processes for commercial GO production is underway. The Company also continues to work with universities on different processes that could potentially lead to a more efficient and/or lower cost process for GO production.

The Company continues to conduct testing on its ZenGUARD™ compound, which includes viral filtration™ efficiency and bacterial filtration efficiency test results announced by the Company on September 27, 2021. The results of third-party testing at GAP Labs demonstrated that ZenGUARD™-coated masks removed 98.9% more bacteria and 97.8% more virus particles than a typical ASTM level 3, 3-ply uncoated mask and resulted in bacterial and viral filtration efficiency of over 99.99%.

The following table sets out some of the specific research and development projects that the Company is undertaking:

| <b>Initiative<sup>(1)</sup></b> | <b>R&amp;D Timing and Stage<sup>(2)</sup></b>            | <b>Major Components to be Funded</b>  | <b>Research Site</b> | <b>Estimated Cost as at December 24, 2021<sup>(3)</sup></b>           | <b>Update for the period from January 1, 2022, to June 30, 2023</b> |
|---------------------------------|--|---|----------------------|---|---|
| ZenGUARD™- Coated Masks         | Advanced stage of development (currently in the market). | Coating of ZenGUARD™ antimicrobial compound on PPE masks (polypropylene fabric) for reduced microbial transmission through aerosols. Continue work of optimizing material and characterization of compound. | Internal             | Continued research and development at an estimated cost of \$200,000. | Approximately \$112,500 has been spent as at June 30, 2023.         |



| Initiative <sup>(1)</sup> | R&D Timing and Stage <sup>(2)</sup> | Major Components to be Funded  | Research Site       | Estimated Cost as at December 24, 2021 <sup>(3)</sup>                   | Update for the period from January 1, 2022, to June 30, 2023   |
|---------------------------|-------------------------------------|--|---------------------|---|--|
| ZenGUARD™ Coated Gloves   | Intermediate stage of development   | Coating of ZenGUARD™ antimicrobial compound on PPE gloves (Latex, nitrile, etc.) for reduced microbial transmission through touch to develop antimicrobial gloves.   | Internal            | Continued research and development at an estimated cost of \$150,000.   | Approximately \$Nil has been spent as at June 30, 2023.<br><br>This research project is currently designated as a lower priority project by the Company and the Company does not intend to spend significant funds on this project in the near future. |
| ZenGUARD™ HVAC            | Advanced stage of development       | Coating of ZenGUARD™ antimicrobial compound on HVAC filter systems in buildings, transportation, etc., for deactivation of aerosolized viral particles in enclosed spaces to develop pathogen deactivating HVAC filters. | Internal            | Continued research and development at an estimated cost of \$200,000.   | Approximately \$177,700 has been spent as at June 30, 2023.  |
| Aptamer-based rapid test  | Intermediate stage of development   | Validation of efficacy of disease detection platform for a broad range of aptamer-based disease detection.   | McMaster University | Continued research and development at an estimated cost of \$2,500,000. | Approximately \$1,987,700 has been spent as at June 30, 2023.  |
| GO based fuel additive    | Early stage of development          | Development of graphene-based additives to liquid fuels for improved performance metrics, including burn time, burn temperature, droplet size and fuel economy to create a high-efficiency fuel additive.                | UBC Okanagan        | Continued research and development at an estimated cost of \$325,000.   | Approximately \$98,900 <sup>(3)</sup> has been spent as at June 30, 2023.  |

| <b>Initiative<sup>(1)</sup></b>  | <b>R&amp;D Timing and Stage<sup>(2)</sup></b> | <b>Major Components to be Funded</b>   | <b>Research Site</b>      | <b>Estimated Cost as at December 24, 2021<sup>(3)</sup></b>           | <b>Update for the period from January 1, 2022, to June 30, 2023</b>  |
|----------------------------------|---|--|---------------------------|---|--|
| Quantum Dots                     | Early stage of development                    | Development of GO additive nanoscale crystals.   | UBC Okanagan              | Continued research and development at an estimated cost of \$20,000.  | Approximately \$5,100 has been spent as at June 30, 2023.<br><br>This research project is currently designated as a lower priority project by the Company and the Company does not intend to spend significant funds on this project in the near future. |
| GO-enhanced Aluminum             | Early stage of development                    | Addition of GO to aluminum melts for improved material metrics, including tensile & ductile strength and grain size to develop graphitic aluminum enhancing additive.                            | UBC Okanagan              | Continued research and development at an estimated cost of \$38,000.  | Approximately \$15,500 <sup>(3)</sup> has been spent as at June 30, 2023.  |
| 3D Printing/Shielding            | Early stage of development                    | Adding GO and nanomaterials into polymers to improve conductivity and to develop complex shapes for E&M shielding for space and other applications to develop conductive 3D printable filaments. | UBC Okanagan              | Continued research and development at an estimated cost of \$60,000.  | Approximately \$65,600 <sup>(4)</sup> has been spent as at June 30, 2023.  |
| Icephobic Coatings               | Intermediate stage of development             | GO and/or polymer composite icephobic coating for application in the wind turbine and drone industries to develop icephobic coating for prop-blades, and wind turbine blades.                    | Internally and externally | Continued research and development at an estimated cost of \$150,000. | Approximately \$Nil has been spent as at June 30, 2023.  |
| Therapeutic Research Development | Early stage of development                    | In vivo and in vitro testing of the ZenGUARD™ compound to develop a novel microbial compound for dermatological conditions.  | Undetermined              | Continued research and development at an estimated cost of \$300,000. | Approximately \$93,500 has been spent as at June 30, 2023.   |

| Initiative <sup>(1)</sup>           | R&D Timing and Stage <sup>(2)</sup> | Major Components to be Funded   | Research Site                                       | Estimated Cost as at December 24, 2021 <sup>(3)</sup> | Update for the period from January 1, 2022, to June 30, 2023 |
|-------------------------------------|-------------------------------------|---|---|---|--|
| Anode and Battery Technologies      | Early stage of development          | Development of graphene-enhanced anode material. Mitacs Accelerate project develops new materials for all aspects of an automotive battery including: anode, cathode, separator, electrolyte. | University of Waterloo<br><br>University of Toronto | N/A   | Approximately \$38,700 has been spent as at June 30, 2023.   |
| Fire Retardant Intumescent Coatings | Early stage of development          | Additives for an intumescent coating to improve the performance of regular formulations.  | Internally and externally                           | N/A   | Approximately \$48,200 has been spent as at June 30, 2023.   |

Notes:

- (1) MIC Testing has been removed from the chart as an initiative as this was a tool to support ZenGUARD development.
- (2) Timing is based on management's reasonable business judgement and subject to certain assumptions and risk factors that may or may not be foreseeable to the Company. See "Forward-Looking Statements" and "Risk Factors". Management currently believes that products that are in the advanced stage of development are no more than one year from being marketable, intermediate stage of development are approximately 1-2 years from being marketable, and products that are in the early stage of development are approximately 3-5 years from being marketable.
- (3) Estimated cost as at December 24, 2021, the date of the short form prospectus filed.
- (4) Monies spent were reallocated from 3D Printing/Shielding to GO based fuel additive and Go-enhanced Aluminum initiatives to properly reflect actual spend that previously had been reported incorrectly

### *Intellectual Property ("IP") Protection Activities*

The Company's intellectual property protection activities during the three-month period ended June 30, 2023, are summarized below:

By March 31, 2023, the Company filed patent applications for ZenGUARD™ in 9 countries including the United States, Europe and India.

### *Aptamer-Based Rapid Detection Technology*

Pursuant to a license agreement dated June 11, 2021, as amended June 23, 2023, McMaster University has granted to the Company, for a twenty-year term, a worldwide exclusive royalty-bearing license to use and practice all aptamer and DNzyme uses, including, but not limited to, diagnostics, therapeutics, and as neutralization agents, including but not limited to SARS-CoV-2. The technology was developed by a team of researchers under the guidance of Drs. Yingfu Li, John Brennan and Leyla Soleymani, who have expertise in biosensing technologies and applications as point of care diagnostics. This patent-pending technology was validated with clinical samples from patients recruited under the supervision of two clinicians, Drs. Deborah Yamamura and Bruno Salena, who also work at McMaster University. The project was funded by the Canadian Institutes of Health Research (CIHR). This technology has shown to be accurate (similar to current PCR tests), is saliva-based, affordable and scalable, and provides results in under 10 minutes. A license fee of \$100,000, comprised of \$50,000 cash and \$50,000 in common shares of the Company (19,157 common shares at \$2.61 per share) was paid to McMaster University as consideration. Although this technology is currently being developed specifically for COVID-19, this technology platform is designed to be able to detect other diseases by changing the aptamer to match new diseases.

The Company also received \$148,000 from Innovations Solutions Canada (“ISC”) to design and build a prototype for the use of this technology to help detect COVID-19 in wastewater. On November 4, 2021, the Company announced that it was selected as one of three technologies for Phase 1 of the ISC challenge to develop a portable detection device for SARS-CoV-2 in wastewater. On June 1, 2022, the Company announced that it would not proceed to Phase 2 of the ISC challenge, however the process and results produced would be useful for prioritizing future opportunities.

The Company currently intends to continue developing this technology, including the development of software and hardware, using outsourced third-party developers. The Company intends to spend funds to bring the product to market as soon as practicable, which will require having a working prototype prepared, having conducted baseline studies, and having made an application to Health Canada.

On May 19, 2022, the Company announced that McMaster received two Natural Sciences and Engineering Research Council (“NSERC”) grants related to the aptamer-based rapid detection technology; the Alliance Missions Grant in the amount of \$1,000,000, and an Idea to Innovation (I2I) Grant in the amount of \$350,000, of which the Company will make a \$140,000 contribution. The Company intends to continue working with Dr. Yingfu Li and the research team at McMaster through in-kind contributions, using these grants towards commercializing the rapid diagnostic platform. The grants will be used to advance commercialization efforts by improving the performance of aptamers, optimizing chip synthesis, and initiating tests for additional pathogens that can be incorporated into its pathogen detection platform. The Company currently expects the cost to reach commercialization to be approximately \$2,500,000, which includes enhancements and further development of the technology. StarFish Product Engineering Inc. is to conduct product strategy alignment, usability analysis, device and architecture development, proof of concept and prototyping, and program development.

On June 1, 2022, the Company announced that it had retained Halteres Associates (“Halteres”), a consultancy focused on global health, diagnostics, and point-of-care testing, to assist with the commercialization of the aptamer-based rapid detection technology. Market research from the Halteres group will be used to identify the most commercially important pathogens for detection, which will guide the aptamer development program. Halteres evaluated several commercialization opportunities for the aptamer technology, including human diagnostics, agriculture, wastewater, veterinary, and other potential uses in healthcare and the Company is now reviewing those opportunities.

To bring the product to market, the Company will be required to obtain authorization from Health Canada under an interim order, or to obtain a Class IV Medical Device Active License (“MDAL”). The process for obtaining an MDAL involves completing certain testing requirements and demonstrating that the product is (i) safe, (ii) effective, and (iii) fit for purpose. Assuming that process is completed, the Company would then start preparing a product technical file, and then seek to complete a Health Canada Class IV application.

#### *Diesel Fuel Additive*

The Company is working to develop a stable graphene-based diesel fuel additive to improve combustion, increase burn rate, reduce greenhouse gas emissions and to improve fuel economy of diesel fuels. Initial testing has shown an increase in the performance of diesel fuel. The Company is working to improve on these early results through optimization work. The Company has filed a provisional patent application for its graphene-based fuel additive technology.

Primarily overseen by Dr. van der Kuur, the Company’s Vice-President – Science and Research, the Company is developing a process to functionalize GO to produce a stable dispersion in diesel fuel. The fuel additive was tested by Conestoga College in a Gunt 159 single cylinder test engine, which reported an improvement in fuel economy of over 10% under certain rpm.

The Company continues to work with Dr. Sina Kheirkah at the University of British Columbia-Okanagan Campus (“UBCO”) to test GO-doped fuel as part of an NSERC alliance project for \$110,500 cash contribution and a total budget of \$311,500 over two years to continue doped fuel research. The project will focus on measuring the combustion of doped fuel in both droplet and spray combustion. The Company has spent approximately \$98,900 on this research and development project.

The Company intends to continue spray combustion testing at UBCO to optimize the concentration of the additive and to assess the performance of the burn rate, fuel economy and emission of doped Jet-A and diesel fuels. The Company currently estimates that the cost for such future testing is approximately \$100,000.

### *Icephobic Coating*

The Company is also working to develop a new, patent-pending, carbon-based, nanotechnology-enhanced coating designed to prevent or reduce ice accretion for aviation (including drone) and wind energy applications.

Dr. van der Kuur, the Company’s Vice-President – Science and Research, is the primary overseer of the project, which has involved the use of dispersion technology to homogeneously mix graphene-based materials in an elastomer. The Company has a pending patent application on the technology. The Company has also conducted testing at the National Research Council of Canada's (“NRC”) Altitude Icing Wind Tunnel in Ottawa and prepared graphene-enhanced elastomer material and coated coupons for testing.

The Company disclosed on February 28, 2022, that the icephobic coatings were undergoing full flight trials on a specially equipped research aircraft under real-world ice-forming weather conditions. On March 14, 2022, the Company announced the results of three rounds of testing of its icephobic coating, including laboratory tests, real-world flights and applications related to drone operations in adverse weather. In real-world testing, the Company reported that video footage of icephobic coating on test pieces attached to a research aircraft undergoing flight trials targeting adverse weather environments has shown positive results and demonstrated that, under significant icing conditions, the coatings provide an effective de-icing and anti-icing solution. Drone testing showed that propellers coated with the icephobic material can maintain higher thrust, when compared to a non-coated propeller, due to the shedding of ice that forms on the blades that would otherwise degrade the drone’s aerodynamic properties. Accelerated ageing testing has been completed by exposing samples coated with icephobic elastomer to UV weathering for 1,000 hours, which approximates two years’ worth of sun damage in typical Canadian weather. These samples were then tested in an icing wind tunnel under dynamic conditions and demonstrated significant retention of their icephobicity.

On August 2, 2022, the Company filed a patent application through the Patent Cooperation Treaty (PCT), for Nanomaterial-Enhanced Elastomer for Passive Ice Accretion Prevention. The Company disclosed this on September 19, 2022.

On September 19, 2022, the Company announced the successful completion of sand erosion testing at the NRC and rain erosion testing at the Anti-icing Materials International Laboratory in Quebec which demonstrated the icephobic material’s durability in adverse conditions for both wind turbine and drone industries.

On May 4, 2023, the Company announced successful drone testing, where thrust was maintained under calibrated icing conditions of freezing drizzle and freezing rain in an outdoor, real-world environment. The drone with the Company’s icephobic coating applied to the propeller blades hovered under the outdoor icing rig and, on all tests conducted, maintained flight until the end of the battery life of the drone. The same drone with uncoated propeller blades rapidly lost the ability to maintain flight. These tests are expected to satisfy the Transport Canada requirement for anti-icing equipment. The current regulations for civilian drone operations in Canada as per Transport Canada regulations state that no pilot shall operate a remotely piloted aircraft system when icing conditions are observed, are reported to exist or are likely to be encountered along the route of flight unless the aircraft is equipped with de-icing or anti-icing equipment and equipment designed to detect icing. The Company is currently consulting with Transport

Canada to propose the Company's passive ice accretion technology as a potential means of compliance to satisfy the requirements as well as working to find a collaborator that could provide equipment designed to detect icing.

On May 30, 2023, the Company announced a collaboration with Pattern Energy Group LP to optimize, test and validate the Company's icephobic coating for the wind turbine industry. The partnership is being supported financially by both the Natural Sciences and Engineering Research Council of Canada and PRIMA Quebec – Advanced Materials Moving Forward.

The Company continues to consider and seek partners to commercialize this technology, including drone companies and companies specializing in elastomer production. Because the NRC has been testing a variety of coatings, the Company has been able to participate in the NRC testing process thus far at no cost to the Company. However, the Company anticipates additional testing and development to cost approximately \$150,000.

#### *Fire-Retardant Additive*

The Company announced on March 28, 2022, that it had filed a provisional patent with the United States Patent and Trademark Office for an innovative Graphene Oxide-Metal-Organic Framework ("GO-MOF") compound for use in fire retardant products. The Company has since filed an international (PCT) patent application for the technology. Management of the Company considers the manufacturing of the GO-MOF compound as relatively easily scalable and efficient, due to the patent-pending facile synthesis process. The Company believes the fire-retardant GO-MOF additive could potentially be placed in a variety of coating products, such as latex, epoxies or included in polymers. When integrated into a polymer, it could potentially create a fire-resistant plastic that could be used in electric vehicles, providing a fire-resistant non-metal casing for the batteries. Management currently expects that GO-MOF production could be achieved on the existing ZenGUARD™ industrial scale production facility with minimal additional capital expense.

Dr. van der Kuur, the Company's Vice-President of Science and Research, is the primary overseer of the project. The Company has spent approximately \$48,200 on this research and development project, and intends to conduct further testing, which it currently estimates will cost approximately \$100,000. In the quarter ended June 30, 2022, optimizations to the formulations were performed at the Company's lab prior to a testing program with a commercial partner. Testing and optimization work remains ongoing as of June 30, 2023.

#### *Battery Technology*

The Company has been collaborating with Dr. Michael Pope at the University of Waterloo since 2017, developing battery technology to improve anode performance. One highly studied area for lithium-ion battery (LIB) development is to improve the anode material. Currently electric vehicle anodes are composed of graphite, which has a limited theoretical specific capacity of ~372 mAhg<sup>-1</sup>. Silicon has attracted significant attention as a replacement material, mainly due to its high specific capacity of 4,200 mAhg<sup>-1</sup>, but also due to its low working potential, low price and the availability of silicon. However, silicon has an enormous volumetric fluctuation (greater than 300% in all dimensions) when charging and discharging. This feature is the root cause behind the issues of poor cycle lifetime, irreversible capacity loss, and destruction and reformation of the solid electrolyte interface.

Using silicon in the anode material, Dr. Pope has attempted to address these issues and has created a patent-pending graphene-wrapped silicon anode material. On February 18, 2022, the Company announced the filing of a provisional patent application with the United States Patent and Trademark Office relating to a graphene-wrapped silicon anode material. Since April, Dr. Pope's team has optimized the anode material, which now has a specific capacity of over 1,000 mAh/g and retains over 80% of its capacity over 320 charge-discharge cycles. The specific capacity of this material is a significant improvement over common graphite anodes; however, the cycle life still requires improvement compared to typical electric vehicle batteries, which lose about 4% capacity over 1,000 charge-discharge cycles. The Company intends to continue to work with Dr. Pope's team to develop this technology with the goal of improving performance to meet industry requirements. The Company filed an international (PCT) patent application.



On October 28, 2022, the Company announced the commencement of a four-year, \$1.6M research project in collaboration with Professors Mohini Sain and Ning Yan from the University of Toronto and Ford Powertrain Engineering Research and Development Centre. Funding for the project includes \$1.2M from the Mitacs Accelerate program. The project seeks to test novel concepts for the purpose of inventing multifunctional materials to be used in automotive battery components including anode, cathode, electrolyte, and separator. The Company will be working in tandem with University of Toronto researchers providing and testing advanced graphene materials including the Company's patent-pending anode material developed by Dr. Michael Pope.

### *Corrosion Protection*

On February 8, 2023, the Company announced the development of ZenARMOR™, a novel corrosion protection technology based on functionalized GO, for potential use in naval and marine infrastructure, bridges, buildings, pipelines, and other industries. ZenARMOR™ could be produced in the ZenGUARD™ facility. Third-party testing on ZenARMOR™ yielded excellent corrosion resistance with no blisters or other signs of corrosion after 1,500 hours of ASTM B-117 Salt Spray Test with ZenARMOR™, and ZenARMOR™ qualified for the ISC Testing Stream – Military Call for Prototypes. The Company has filed an international (PCT) patent application on this corrosion protection technology, as well as a trademark for ZenARMOR™. Testing remains ongoing, and the Company is seeking Government of Canada Organizations that may be interested in testing partnerships.

### *Other Use-Cases for ZenGUARD™*

#### HVAC Filtration

ZenGUARD™ is the Company's patented anti-microbial coating technology platform. The Company intends to continue exploring other applications and uses for its ZenGUARD™ compound, including, but not limited to, use in HVAC filters. On September 30, 2020, the Company first announced testing on ZenGUARD™ use for HVAC systems. On January 13, 2021, the Company announced that testing by a major Canadian certification company had confirmed that there was very little effect on air flow and pressure drop with a ZenGUARD™ treated filter compared to an untreated filter. The Company spent approximately \$60,000 on testing, including preliminary testing of ZenGUARD™-coated HVAC filter media for pressure drop, and increased challenge bacterial filtration efficiency on uncoated and coated MERV 8 and MERV 13 HVAC filters, overseen primarily by James Jordan, P.Eng., the Company's Project Engineer, Dr. van der Kuur, the Company's Vice-President – Science and Research and Peter Wood, P.Eng., the Company's Vice-President, Special Projects. The Company then determined to wait for government support in order to proceed with testing, which was subsequently awarded on November 30, 2021.

Further to the press release dated November 30, 2021, the Company announced that it has been awarded a research and development test contract through the ISC Testing Stream Call for Proposals to test ZenGUARD™-coated HVAC filters with interest from three different units within the NRC. The goal of the testing, conducted by CremCo Laboratories with assistance from the Aerospace Research Centre, a department of the NRC was to demonstrate: (i) a net reduction in the airborne viral and bacterial load with ZenGUARD™ coating applied to standard filters; (ii) no modifications required to existing HVAC systems to achieve (i) above; (iii) no reduction in air flow rates, which means air exchange rates in the space will be unchanged; and (iv) no reduction in the air quality as the ZenGUARD™ coating was tested to ensure it does not contribute particles into the air stream.

Phase 1 testing commenced in December 2021 after an extensive design process, calibration, and assessment of the testing rig, and involved the test rig being installed inside an aerobiology chamber to push air through HVAC filter material with test organisms to study how these live airborne organisms were reduced by the ZenGUARD™ coating. Testing used multiple samples with repeated tests so that each filter's performance could be compared. It was determined that all Phase 1 targets were met including sufficient reduction in live airborne test organisms, no significant shedding of the ZenGUARD™ coating, and air flow rates that were not impacted by the coating. On April 11, 2022, the Company announced that, after successful completion of Phase 1 testing, it will proceed to Phase 2 testing.

On December 15, 2022, the Company announced the successful completion of Phase 2 HVAC filter testing and that the preliminary report from Phase 2 testing had been received. The final report was received in January 2023, and announced on February 6, 2023. The report notes a significant reduction in live airborne test organisms with ZenGUARD™ coating applied to standard HVAC filters without modification to existing HVAC systems, with no reduction in air flow rates or increasing energy use.

The testing demonstrated a reduction in live airborne bacteriophage surrogate contamination within a modular classroom environment, simulating a real-world environment. The testing was performed at the NRC's purpose-built bioaerosol testing facility, designed, and built specifically for testing wet aerosolized droplets, which is the primary mechanism for the spread of disease in an indoor setting.

The Company has also been consulting and testing with LMS Technologies ("LMS"), a United States-based air media and filter testing company providing testing services and product certification for filter manufacturers. LMS' independent testing of ZenGUARD™ coated MERV 8 filters demonstrated a significant increase in both bacterial and viral filtration efficiency in line with or better than the results from the NRC. The Company currently intends to continue to work to optimize configurations of HVAC filter materials coated with ZenGUARD™ technology at LMS to optimize its product and complete all testing and documentation required for regulatory submissions in Canada and the United States. The Company has engaged Intertek Group plc to conduct a review of regulatory requirements in other geographies of interest. The Company has approximately \$200,000 budgeted for future testing, an amount which is net of expected and awarded third party monies.

#### Therapeutic and Pharmaceutical Applications

In addition, the Company is exploring the potential to use this compound in therapeutic or pharmaceutical applications. In testing by Dr. Tony Mazzulli from Mount Sinai Hospital in Toronto, the active ingredient in ZenGUARD™ showed low minimum inhibitory concentrations against several bacteria. On February 4, 2021, and March 2, 2021, the Company announced results of the Phase 2 cytotoxicity testing by Nucro Technics testing laboratory and included cytotoxicity testing that noted no adverse effects after seven days of repeated dosing. MRSA-related skin infection testing was performed on animals with inconclusive results. The Company is exploring further testing options pending continued research. On March 10, 2022, the Company announced that it had retained Vimta Labs Limited ("Vimta"), a leading clinical research organization in India, to begin studies of ZenGUARD™ active ingredient as a potential treatment of skin disease. Vimta will be performing pre-clinical research including collecting the *in vitro* and *in vivo* data that is required for the submission of an Investigational New Drug to the United States Food and Drug Administration, which is a requirement for the administration of a new drug in humans. The pre-clinical work with Vimta is scheduled to be completed by June 30, 2024. The Company decided to move forward with this work following cytotoxicity studies with Nucro-Technics and positive anecdotal results of various human skin infections including acne, warts and toenail fungal infections. There were no adverse effects recorded during these anecdotal trials. These human anecdotal cases form part of the Company's international (PCT) patent application filed on December 20, 2021, entitled "*Graphene Oxide-Cationic Silver Nanocomposites and Their Use As Broad-Spectrum Antimicrobial Agents*" which was published on June 30, 2022.

#### *Other*

The Company is also working with a number of research institutions developing processes to synthesize graphene, GO and graphene quantum dots, along with other possible applications for graphene-based materials. Potential markets for graphene-based materials include composites (e.g., concrete, rubber, plastic polymers, and ceramics), sensors, water purification and filtration, coatings and solid-state lubricants, silicon-graphene and graphene aerogel anode material for next generation batteries along with aerospace applications.

On February 18, 2022, the Company announced the filing of a provisional patent application with the United States Patent and Trademark Office relating to a graphene-wrapped silicon anode material. The Company has other research

projects commenced or contemplated including for applications in aluminum alloys, corrosion protection, battery technology, conductive polymers, and others. The Company will report on these when it is appropriate to do so.

### Albany Graphite Project

The Company owns 100% of the issued and outstanding shares of AGC which owns the Albany Graphite Project in northeastern Ontario, Canada. The unusual nature of the formation of graphite in the Albany Graphite Project and its potential chemical and economic significance motivated additional exploration drilling from 2012 to 2014. The current claims require a total of \$195,600 worth of assessment work per year to keep them in good standing and the Company has a total credit of approximately \$7.1M in available exploration reserves. On October 18, 2021, the TSXV changed the Company's classification from a "mining issuer" to an "industrial, technology, or life sciences issuer." The change of classification was approved by the shareholders of the Company on September 27, 2021, in accordance with the rules and policies of the TSXV.

On April 18, 2022, the Company announced that it had engaged The Benchmark Company, LLC to act as a strategic financial advisor with respect to potential transactions relating to the Albany Graphite Project. This engagement concluded on January 16, 2023.

On February 16, 2023, the Company and 1329307 BC Ltd. announced a non-binding letter of intent dated February 13, 2023, pursuant to which the parties have agreed to negotiate a transaction involving the transfer of the Albany Graphite Project in Northern Ontario to an entity to be listed on a recognized Canadian Securities Exchange. AGC was incorporated for this purpose as a wholly owned subsidiary of the Company on February 23, 2023.

During the three-month period ended June 30, 2023, approximately \$135,000 was spent by AGC on the Albany Graphite Project including professional fees on updating the 43-101 report and geologist wages. These costs have been capitalized in accordance with the Company's accounting policy on Exploration and Evaluation Assets.

On May 19, 2023, the Company transferred to AGC the ownership of the Albany Graphite Project, including the mining claims and all related chattel, drill core, and applicable contracts, in consideration for the issuance by AGC to the Company of 59,999,900 common shares of AGC. Completion of the property transfer was subject to standard closing conditions such as receipt of all required regulatory and third-party approvals (including the approval of the TSXV). The Company announced the appointments of Greg Fenton as Chair of the board of AGC, Brian Bosse as Chief Executive Officer of AGC, and Peter Wood as Vice-President – Development of AGC.

On April 24, 2023, the Company announced a non-brokered private placement financing, through the issuance of subscription receipts of AGC at a price of \$1.00 per subscription receipt (the "AGC Financing"). Each subscription receipt will automatically convert into one common share in the capital of AGC and one-half of one common share purchase warrant upon the satisfaction or waiver of all conditions precedent to a transaction that would result in a listing on a recognized Canadian stock exchange. Funds raised pursuant to the AGC Financing shall be held in escrow pending satisfaction of the release conditions, at which time such funds would be released to AGC, which intends to use the net proceeds of the financing to (i) continue the engagement with the CLFN; (ii) continue environmental baseline and other studies in preparation for project analysis; and (iii) complete an updated technical report in respect of the Albany Graphite Project. Completion of the AGC Financing and any listing on a recognized stock exchange is subject to the receipt of all applicable corporate and regulatory approvals.

After the quarter ended June 30, 2023, the Company announced that it had completed an updated Mineral Resource estimate as required for listing AGC on a Canadian exchange, as described in more detail under the heading "*Subsequent Events*" below.

## Business Objectives and Milestones

As at June 30, 2023, the Company had working capital of \$13,519,140 (June 30 2022-\$24,942,857) defined as current assets less current liabilities.

On January 4, 2022, the Company completed a bought-deal prospectus offering raising gross proceeds of \$23,005,060 and a concurrent non-brokered private placement raising additional gross proceeds of \$10,009,022, for total gross proceeds of \$33,014,082. The Company disclosed in its final prospectus dated December 23, 2021 (the “Prospectus”) that it expected the net proceeds of the financing to be (excluding any exercise of the overallotment option) \$28,813,158 after deducting the payment of the commission to the underwriters.

The following table sets out the uses that the Company planned for such proceeds over the twenty-four-month period following the financing, as disclosed in the Prospectus, and an update on the actual expenditures using such funds:

| <b>Use of Available Funds</b>                                | <b>Expected Amount as at date of Prospectus (\$)</b> | <b>Approximate Actual Amount spent as at June 30, 2023 (\$)</b> |
|--|--|---|
| General and administrative costs                             | 4,000,000  | 7,233,000   |
| Acquisition of GO supply <sup>(1)</sup>                      | 1,300,000  | 2,117,000   |
| Construction of ZenGUARD™ production facility <sup>(2)</sup> | 1,500,000  | 2,791,000   |
| Purchase of coating equipment <sup>(2)</sup>                 | 1,900,000  | 1,861,000   |
| Construction of GO production plant <sup>(3)</sup>           | 7,500,000  | Nil   |
| Potential strategic acquisition                              | 1,500,000  | Nil   |
| Development of rapid detection technology <sup>(4)</sup>     | 2,500,000  | 1,988,000   |
| Building inventory of rapid detection tests                  | 3,000,000  | Nil   |
| Research and development <sup>(5)</sup>                      | 2,000,000  | 2,268,000   |
| Purchase of research and development facility <sup>(5)</sup> | 2,000,000  | 2,065,000   |
| Estimated offering costs                                     | 300,000  | 292,000   |
| Unallocated funds added to working capital                   | 1,313,158  | 8,198,158   |
| <b>Total</b>   | <b>28,813,158</b>                                    | <b>28,813,158</b>   |

Notes:

- (1) See “Current Business – ZenGUARD™ Anti-Microbial Compound”.
- (2) See “Current Business – Construction of ZenGUARD™ Industrial Scale Production and Coating Facility”.
- (3) See “Current Business – Proposed Construction of Graphene Oxide Production Facility”.
- (4) See “Business in Development – Aptamer-Based Rapid Detection Technology”.
- (5) See “Current Business – ZenGUARD™ Research and Development”.

From January 4, 2022, to June 30, 2023, the Company spent approximately \$20,615,000 of the \$28,813,158 that was expected to be available. General and administrative costs have been proportionally higher in the approximately eighteen months since the Prospectus, as the Company hired additional staff including regulatory staff, marketing staff and additional management personnel. Recent general and administrative costs include certain non-recurring expenses such as costs related to the Trebor receivership, and costs relating to obtaining a Nasdaq listing. The Company expended more than expected for the acquisition of GO, as its supplier experienced delays as a result of global shipping issues, and the Company decided to mitigate the supply chain risk and ordered more than originally planned of GO.

## **Overall Performance**

During the three-month period ended June 30, 2023, the Company was mainly involved in scaling the production process of the ZenGUARD™ antimicrobial coating formulation along with completing the engineering work for the

industrial production facility. The Company also continued its graphene R&D activities which led to the filing of two provisional patent applications and one licensed-in patent-pending technology during this year. Overall, during the three-month period ended June 30, 2023, the Company had cash expenditures of approximately \$2,131,247 (Q1 23: \$3,866,000) consisting mainly of mortgage payments, research and development costs, professional and consulting fees and general operating expenses.

## **Results of Operations**

### Net loss

The Company recorded a net loss of \$3,156,040 with basic and diluted net loss per share of \$0.03 for the three-month period ended June 30, 2023 (Q1 23 – loss of \$5,034,202 and \$0.05).

### Revenue

Revenue generated from operations for the three-month period ended June 30, 2023, was \$Nil (Q1 23: \$48,105). Revenue recognized in the three-month period ended June 30, 2022, was for the sale of ZenGUARD™ coated masks of \$33,105 and miscellaneous sale of land surveys to an independent geologist for \$15,000. Interest income for the three-month period ended June 30, 2023, was \$143,402 (Q1 23: \$58,074).

### Expenses

Amortisation expense was \$139,815 for the three-month period ended June 30, 2023 (Q1 23: \$155,700). Amortization is taken on the capitalized cost of the Company's building, computers, equipment, leasehold improvements, and right-of-use asset.

Consulting fees were \$79,438 for the three-month period ended June 30, 2023 (Q1 23: \$579,481). The most significant component of the consulting costs incurred were for consultants working on regulatory and government matters.

Directors' fees expense was \$30,000 for the three-month period ended June 30, 2023 (Q1 23: \$Nil). This expense relates to compensation paid to the Company's independent Directors which was new in Q2 2023.

Insurance expense was \$97,056 for the three-month period ended June 30, 2023 (Q1 23: \$87,684). These expenses relate to the costs required to adequately insure the Company's assets, operations and Directors and Officers.

Investor relations and promotion expenses were \$11,213 for the three-month period ended June 30, 2023 (Q1 23: \$40,425). These expenses consist primarily of the costs of consultants, marketing trips and other costs such as attending industry conferences. Additional costs were incurred in the first half of fiscal 2023 with the Company now being listed on the Nasdaq.

Listing and filing fees were \$93,465 for the three-month period ended June 30, 2023 (Q1 23: \$136,271). These expenses consist primarily of the costs of maintaining registered status on various stock listing exchanges.

Office expenses were \$33,041 for the three-month period ended June 30, 2023 (Q1 23: \$40,563). Expenses have levelled off as the hiring of new staff has declined in the past quarter.

Professional fees were \$408,725 for the three-month period ended June 30, 2023 (Q1 23: \$489,235). These fees consist primarily of the amounts charged for services provided by the Company's lawyers, auditors, and accountants.

Rent expense was \$123,617 for the three-month period ended June 30, 2023 (Q1 23: \$31,630). Additional storage was required in starting in the last half of fiscal 2023 to store the newly acquired GO shipments and manufactured masks at an additional quarterly cost of approximately \$80,000.



Research and development expenses were \$433,677 for the three-month period ended June 30, 2023 (Q1 23: \$674,107). These expenses mainly related to continued research and development activities regarding graphene use and development.

Salaries and benefits expense was \$914,518 for the three-month period ended June 30, 2023 (Q1 23: \$844,114). These expenses relate to staffing costs required to operate the business. Currently there are 31 employees on payroll versus 28 during the same period of the prior year.

Share-based compensation costs were \$809,147 for the three-month period ended June 30, 2023 (Q1 23: \$1,276,127). Share-based compensation was based on the fair value of the options described in Note 11(c) of the audited consolidated financial statements as calculated using the Black-Scholes option pricing model. Stock-based compensation is recognized over the vesting period of the underlying options. 1,100,000 options were issued to Directors and Officers in Q4 22 which resulted in additional share-based compensation expense in Q1 23. These options were fully vested by March 31, 2023, and therefore, no related expense in Q1 24.

Supplies and materials expense was (\$5,046) for the three-month period ended June 30, 2023 (Q1 23: \$532,769). Q1 24 included a prepaid adjustment that flowed through supplies of approximately \$80K, creating a credit balance. These expenses mainly related to supplies and materials purchased to continue graphene development. Operations were ramping up and various supplies were being acquired to assist with the R&D activities and operations in fiscal 2023.

Travel expense was \$23,072 for the three-month period ended June 30, 2023 (Q1 23: \$53,866). This decrease reflects less travel by staff compared to the same period a year prior.

Other expenses excluding office and travel expenses were \$181,635 for the three-month period ended June 30, 2023 (Q1 23: \$159,411). The following table details the material components of the Company's other expenses for the three-month periods ended June 30, 2023, and 2022.

As at June 30, 2023 there were 31 employees on payroll versus 28 during the same period of the prior year. Expenses declined for automotive, dues and subscriptions, meals and entertainment as management had a concentrated effort to reduce their per head count spend in these areas. The increase in freight and delivery was a result of repositioning and consolidating of inventory of GO in storage to a more economical leased facility. These additional costs will be recouped with reduced rental savings in the next 3 months. Additional freight and delivery costs were incurred for the movement of international masks from Turkey to India during Q1 24 as well.

|                         | <b>Three Months Ended<br/>June 30, 2023</b> | <b>Three Months Ended<br/>June 30, 2022</b> |
|-------------------------|---|---|
| Automotive              | 6,170                                       | 6,991                                       |
| Bank fees               | 1,317                                       | 651   |
| Dues and subscriptions  | 11,254                                      | 53,504                                      |
| Freight and delivery    | 88,760                                      | 27,623                                      |
| Meals and entertainment | 14,159                                      | 22,555                                      |
| Other expenses          | 20,320                                      | 12,891                                      |
| Property taxes          | 7,955                                       | 7,908                                       |
| Repairs and maintenance | 25,209                                      | 19,480                                      |
| Telephone               | 6,010                                       | 3,430                                       |
| Utilities               | 481   | 4,378                                       |
| <b>Total</b>            | <b>181,635</b>                              | <b>159,411</b>                              |

Interest income for the period ended June 30, 2023, was \$143,402 (Q1 23: \$58,074). The Company continues to earn interest on cashable guaranteed investment certificates. Interest rates have increased since fiscal 2023, resulting in more interest earned.



## Cash Flows

During the three-month period ended June 30, 2023, cash increased overall by \$368,753 (Q1 23: decreased by \$4,087,622). Operating activities resulted in a decrease in cash of \$1,700,534 (Q1 23: \$2,998,057) due to continued spending on consulting and professional fees, research and development, salaries and benefits and other expenses. Investing activities resulted in an increase in cash of \$2,160,728 (Q1 23: decrease of \$867,703) as a result of the partial payment received on the loan receivable of \$2,500,000 in Q1 24 whereas the same period of the prior year, investing activities were mainly to fund property and equipment purchases. Financing activities resulted in a decrease in cash of \$91,441 (Q1 23: \$221,862) due to repayments of long-term debt and the lease liability, partially offset by proceeds received from the exercise of stock options. In Q1 24, the repayment terms were renegotiated to extend the amortization period by an additional 12 months on the vendor-take-back agreement, decreasing the financing activity spend.

## **Mineral Exploration and Development**

### Albany Graphite Project

The claims comprising the Albany Graphite Project are presently held in good standing by AGC and there are sufficient assessment credits available to keep all the 4F claims in good standing for over 30 years. There are no environmental liability issues related to any previous exploration work on the claims. Neither the Company nor AGC have received from any government authority any communication or notice concerning any actual or alleged breach of any environmental laws, regulations, policies or permits. The claims are located in the traditional territory of the Constance Lake First Nation (“CLFN”). In July 2011, the Company and CLFN signed an exploration agreement (assigned to AGC as part of the property transfer of the Albany Graphite Project) for a mutually beneficial and cooperative relationship regarding exploration and pre-feasibility activities on the Albany Graphite Project. Under this agreement, the Company committed to establishing a joint implementation committee and conveying preferential opportunities for employment and contracting as well as contributing to a social fund for the benefit of CLFN children, youth and elders. In 2018, the parties signed a new Memorandum of Understanding (“MOU”) under which a project partnership structure will be created in support of the development of the Albany Graphite Project. Pursuant to the July 13, 2011, Exploration Agreement, the July 19, 2018, Memorandum of Understanding and subsequent September 24, 2018, amendment, both parties signed an Implementation Agreement (IA) in March 2021. The IA sets out the governance, roles, responsibilities, and activities for establishing the Project Partnership Structure (PPS) to advance the Albany Graphite development (Development) and the relationship between AGC and CLFN. The IA will create a working committee drawn from members of CLFN and AGC to engage around matters related to project development, including considerations such as environmental assessment, provincial and federal government liaison, community benefits, traditional knowledge, informed consent, economic development, jobs, human capital, and ultimately, the impact of the Development. AGC and CLFN will continue working towards completing a formal agreement defining the future PPS and accelerating the project development. Subsequent to 2015, most of the Albany Graphite Project work has been focused on metallurgical process development, environmental baseline studies, market studies, and research and development to determine the most attractive market opportunities for the Albany Graphite Project.

As a result of the Company’s change in business to an intellectual property development and commercialization company, the Company conducted an impairment test and determined the recoverable amount of the exploration and evaluation property to be \$7,000,000. Accordingly, the Company recognized an impairment charge on the exploration and evaluation property of \$19,671,935 during the three-month period ended September 30, 2021.

As described above under “*Company Overview and Discussion of Operations – Albany Graphite Project*”, the Company transferred the Albany Graphite Project to AGC with the purpose of moving the Albany Graphite Project forward with a separate corporate entity and management team dedicated exclusively to its development. The Company is not dependent on materials extracted from the Albany Graphite Project for its current business plans.

## **Administration and Capitalization**

On April 13, 2023, a total of 50,000 stock options were exercised at \$1.76 per option resulting in proceeds of \$88,000 to the Company.

On April 14, 2023, the Company announced the grant to directors, officers, and employees of the Company of stock options exercisable for an aggregate of 600,000 common shares of the Company. The options are exercisable at a price of \$2.12 per common share for periods of three to five years and subject to certain vesting criteria.

On May 24, 2023, the Company announced that, subject to regulatory approval, it will conduct a normal course issuer bid for up to 4,979,349 common shares over a period of one year, being approximately 5% of the Company's issued and outstanding common shares, with up to 1,991,739 common shares of the Company being purchasable over any 30-day period, being 2% of the Company's issued and outstanding common shares.

On June 1, 2023, the Company announced the appointment of Ms. Lisa Sim to the Board. 250,000 stock options were issued to Ms. Sim. The stock options have an exercise price of \$2.24 per common share. The options granted to Ms. Sim expire on June 1, 2028, and have a vesting period as follows: 1/3 at June 1, 2023; 1/3 at December 1, 2023; 1/3 at June 1, 2024.

## **Subsequent Events**

On July 2, 2023, 1,250,000 stock options were exercised. Of these options, 1,200,000 were exercised using a "cashless" exercise method whereby 289,854 fewer shares were issued than options exercised as compensation for the \$600,000 in cash that traditionally would have been received by the Company upon exercise.

On July 13, 2023, the Company announced updates to its senior management team. Mr. Colin van der Kuur was promoted from Vice President, Science and Research to Chief Scientific Officer. Mr. Ryan Shacklock was promoted to Senior Vice President, Strategy and Business Development. Mr. Nick Hansford joined the senior management team as Vice President, Strategy and Product Development. Mr. Brian Bosse, Chief Operating Officer of the Company, was reassigned as Chief Executive Officer of AGC. Mr. Peter Wood, Vice President, Special Projects of the Company was reassigned as Vice President, Development of AGC. Mr. Francis Dube assumed the role of Chief Operating Officer at the Company and will also be involved in the Albany Graphite Project.

On July 20, 2023, the Company announced that its aptamer platform under global exclusive license from McMaster University was successfully tested as a potential prophylactic or therapeutic for SARS-CoV-2 in pre-clinical animal models. In repeat trials, the aptamers developed by Dr. Yingfu Li demonstrated similar efficacy against SARS-CoV-2 when benchmarked against a commercial monoclonal antibody. The Company further announced the amendment of its license agreement with McMaster University dated June 11, 2021, to broaden the scope of the worldwide exclusive license to apply to all aptamer and DNAzyme uses, including, but not limited to, diagnostics, therapeutics, and as neutralization agents, and not limited to SARS-CoV-2.

On July 26, 2023, the Company announced that it had engaged SLR Consulting (Canada) Ltd. ("SLR") to update the Mineral Resource estimate that was previously disclosed in the Technical Report on the Preliminary Economic Assessment of the Albany Graphite Project, Northern Ontario, Canada prepared for the Company by Roscoe Postle Associates Inc. dated July 9, 2015 (the "2015 PEA"). An updated Mineral Resource estimate is a requirement for AGC to list on a Canadian exchange. SLR estimated Mineral Resources for the Albany Graphite Project using drill hole data available as of April 30, 2023. A NI 43-101 technical report documenting the Mineral Resource estimate will be filed on SEDAR by September 8, 2023, (45 days from the press release to the market). Based on graphite market projections, SLR has used a long-term price estimate to US\$8,000 per tonne, which is a slight increase from the US\$7,500 pricing in the 2015 PEA.

On July 27, 2023, the Company announced a New Aptamer Technology Platform with McMaster University ("McMaster"). The increased binding affinity enhances the limits of detection for aptamer-based diagnostics. In

addition, the enhanced binding affinity may lead to the successful adaptation of these same aptamers for new therapeutic and prophylactic treatments. Binding affinity is a key metric in both diagnostic and therapeutic applications. Provisional patent applications have been filed with the United States Patent and Trademark Office. The patent applications are owned by McMaster University and under license to Zentek through a 20 year, global and exclusive license agreement that covers diagnostic, neutralization and therapeutic use of aptamers and DNazymes developed by the Li Lab.

## Summary of Quarterly Results

The following table sets out selected quarterly information for the eight most recently completed quarters, for which consolidated financial statements are prepared.

|   | Jun. 30,<br>2023\$ | Mar. 31,<br>2023<br>\$ | Dec. 31,<br>2022<br>restated<br>(1)<br>\$ | Sep. 30,<br>2022<br>restated<br>(1)<br>\$ | Jun. 30,<br>2022<br>restated<br>(1)<br>\$ | Mar. 31,<br>2022<br>restated (1)<br>\$ | Dec. 31,<br>2021<br>restated (1)<br>\$ | Sep. 30,<br>2021 as<br>restated (1)<br>\$ | Sep. 30,<br>2021 as<br>originally<br>presented<br>\$ |
|---|--------------------|------------------------|---|---|---|--|--|---|--|
| Revenue   | nil                | nil                    | 15,200                                    | nil                                       | 48,105                                    | 161,618                                | 35,420                                 | 150,145                                   | 150,145  |
| Other income  | 242,077            | 351,486                | 170,678                                   | 97,878                                    | 58,074                                    | -                                      | 470,886                                | 4,312                                     | 4,312  |
| Loss from discontinued operations                                   | -                  | -                      | -   | -   | -   | -                                      | -                                      | -   | 26,671,935   |
| Net Loss  | 3,156,040          | 2,731,107              | 3,238,902                                 | 3,410,055                                 | 5,034,202                                 | 4,964,841                              | 2,177,696                              | 22,619,623                                | 29,619,623   |
| Net Loss per Share (basic and diluted) from discontinued operations | -                  | -                      | -   | -   | -   | -                                      | -                                      | -   | 0.29   |
| Net Loss per Share (basic and diluted) from continuing operations   | 0.03               | 0.02                   | 0.03                                      | 0.04                                      | 0.05                                      | 0.05                                   | 0.02                                   | 0.25                                      | 0.03   |
| Net Loss per Share (basic and diluted)                              | 0.03               | 0.02                   | 0.03                                      | 0.04                                      | 0.05                                      | 0.05                                   | 0.02                                   | 0.25                                      | 0.32   |

Note (1) The Company restated the comparative consolidated financial statements to account for the impairment of and activities related to the Albany Graphite Project. Net loss September 30, 2021 includes a restated impairment of \$19,671,935, and restated exploration and evaluation asset of \$7M. Additionally, management determined that the impairment and the results of operations and cash flows related to the Property did not qualify to be presented as discontinued operations under IFRS 5 since the Property was not abandoned. Restated quarters subsequent to September 30, 2021 to March 31, 2023, show the exploration and evaluation asset valued at \$7M, and no discontinued operation presentation.

## Discussion of Interim Period Results

The Company began generating limited revenue during the quarter ended September 30, 2021, as a result of its License and Supply Agreement dated September 24, 2021, with Trebor. From September 30, 2020, to March 31, 2022, the quarterly net loss figure had been trending higher, due to the following factors:

1. Increased salaries and benefits costs due to hiring of additional staff to further develop intellectual property and ramp up production.
2. Increased spending on research and development activities to further develop intellectual property.
3. Increased professional fees incurred as a result of increase in legal expenditures.
4. Increased stock-based compensation expense due to granting of options to several directors, officers, employees and consultants.
5. As a result of the change in business during the year ended March 31, 2022, the Company conducted an impairment test and determined the recoverable amount of the exploration and evaluation property to be \$7,000,000 and the Company recognized an impairment charge on the exploration and evaluation property of \$19,051,796 to reduce the carrying value to \$7,000,000.

The quarterly net loss figures have been trending lower since the quarter ended March 31, 2022, mainly as a result of reduced stock-based compensation expense.

## Liquidity and Capital Resources

As at June 30, 2023, the Company had working capital of \$13,519,140 (March 31, 2023: \$15,533,191) and cash and cash equivalents of \$10,726,070 (March 31, 2023: \$10,357,317). As at June 30, 2023, the Company had not yet achieved profitable operations and had an accumulated deficit of \$69,354,348 (March 31, 2023: \$66,198,308) and expects to incur further losses in the development of its business. These events or conditions indicate that a material uncertainty exists that cast substantial doubt on the Company's ability to continue as a going concern. The ability to continue as a going concern is dependent on obtaining continued financial support, obtaining financing, or generating profitable operations in the future. Management is committed to raising additional capital to meet its obligations; however, additional debt and/or equity financing is subject to the global financial markets and economic conditions. Additional financing may not be available on terms favourable to the Company or at all. If the Company does not receive future financing, it may not be possible for the Company to advance its business plans.

On January 4, 2022, the Company completed a financing for aggregate gross proceeds of \$33,014,082 but may require additional financing in the future. The availability of equity capital, and the price at which additional equity could be issued, is dependent upon the success of the Company's activities, and upon the state of the capital markets generally.

## Transactions with Related Parties

The remuneration of key management personnel during the three-month periods ended June 30, 2023, and 2022 were as follows:

- a) Salaries and benefits – \$276,250 (Q1 23: \$246,250)
- b) Share-based compensation - \$599,525 (Q1 23: \$757,049)

Key management personnel are those persons having authority and responsibility for planning, directing and controlling the activities of the Company directly or indirectly, including any directors (executive and non-executive) of the Company.

## **Current and Future Changes in Accounting Policy**

### Statement of Compliance

The unaudited condensed interim consolidated financial statements, including comparatives for the three-month period ended June 30, 2022, have been prepared in accordance with International Accounting Standard 34 - Interim Financial Reporting ("IAS 34") as issued by the International Accounting Standards Board ("IASB") and have been condensed with certain disclosures from the Company's audited consolidated financial statements for the year ended March 31, 2023 (the "Annual Financial Statements") omitted. Accordingly, the unaudited condensed interim consolidated financial statements should be read in conjunction with the Annual Financial Statements.

### Future Accounting Changes

Certain IFRS pronouncements were issued that were mandatory for accounting periods beginning on or after April 1, 2023 or later periods. Many have been excluded as management does not expect them to have a material effect, however, management is still in the process of evaluating any potential impacts. The following have not yet been adopted and are being evaluated to determine their impact on the Company.

IAS 1 – Presentation of Financial Statements (“IAS 1”) and IFRS Practice Statement 2. In February 2021, the IASB issued amendments to IAS 1 and IFRS Practice Statement 2 Making Materiality Judgements, providing guidance to help entities meet the accounting policy disclosure requirements. The amendments aim to make accounting policy disclosures more informative by replacing the requirement to disclose ‘significant accounting policies’ with ‘material accounting policy information’. The amendments also provide guidance under what circumstance, the accounting policy information is likely to be considered material and therefore requiring disclosure. The Company is assessing the impact of the amendment and does not expect it to have a significant effect on the Company’s consolidated financial statements.

IAS 37 – Provisions, Contingent Liabilities, and Contingent Assets (“IAS 37”) was amended. The amendments clarify that when assessing if a contract is onerous, the cost of fulfilling the contract includes all costs that relate directly to the contract – i.e. a full-cost approach. Such costs include both the incremental costs of the contract (i.e. costs a company would avoid if it did not have the contract) and an allocation of other direct costs incurred on activities required to fulfill the contract – e.g. contract management and supervision, or depreciation of equipment used in fulfilling the contract. The Company has adopted this new standard and has determined there was no significant impact on the consolidated financial statements.

IAS 16 – Property, Plant and Equipment (“IAS 16”) was amended. The amendments introduce new guidance, such that the proceeds from selling items before the related property, plant and equipment is available for its intended use can no longer be deducted from the cost. Instead, such proceeds are to be recognised in profit or loss, together with the costs of producing those items. The Company has adopted this new standard and has determined there was no significant impact on the consolidated financial statements.

IAS 12 - Income Taxes ("IAS 12"). In May 2021, the IASB issued amendments to IAS 12, which clarify whether the initial recognition exemption applies to certain transactions that result in both an asset and a liability being recognised simultaneously (e.g., a lease in the scope of IFRS 16). The amendments introduce an additional criterion for the initial recognition exemption, whereby the exemption does not apply to the initial recognition of an asset or liability which at the time of the transaction, gives rise to equal taxable and deductible temporary differences. The Company is assessing the impact of the amendment and does not expect it to have a significant effect on the Company’s consolidated financial statements.

IAS 8 - Accounting Policies, Changes in Accounting Estimates and Errors (IAS 8). The amendment to IAS 8, which added the definition of accounting estimates, clarifies that the effects of a change in an input or measurement technique are changes in accounting estimates, unless resulting from the correction of prior period errors. These

amendments clarify how entities make the distinction between changes in accounting estimate, changes in accounting policy and prior period errors. The Company is assessing the impact of the amendment and does not expect it to have a significant effect on the Company's consolidated financial statements.

### **Critical Judgments and estimation uncertainties**

The areas which require management to make significant judgments, estimates and assumptions in determining carrying values include, but are not limited to:

#### **Inventory**

Judgement is required in determining whether net realizable value should be evaluated on a product-by-product basis or if products cannot be evaluated separately from other products in inventory and should be grouped with similar products.

#### **Accounts receivable and loan receivable carrying values and impairment charges**

In the determination of carrying values and impairment charges, management looks at the higher of recoverable amount or fair value less costs to sell in the case of assets and at objective evidence, significant or prolonged decline of fair value on financial assets indicating impairment. These determinations and their individual assumptions require that management make a decision based on the best available information at each reporting period.

#### **Expected credit loss allowance and provision**

The Company determines an expected credit loss allowance for trade receivables based on the estimated expected lifetime credit loss, considering the actual credit loss in prior years and forward-looking estimates of expected collections. This estimate varies depending on the nature of the trade receivables, the majority of which are associated with the health sciences business; however, also includes receivables from government agencies. The loss allowance is reviewed on a quarterly basis and any change in estimate is accounted for prospectively. The Company also assesses the expected credit loss of non-trade financial assets to determine if an allowance is required. The Company assessed the non-payment of the loan receivable and performed an analysis of collectivity based on the collateral against the loan and determined that no provision was required. Collectivity of customer balances classified as trade receivables may vary from the Company's estimation.

#### **Impairment (impairment reversal) of exploration and evaluation assets**

While assessing whether any indications of impairment or impairment reversal exist for exploration and evaluation assets, consideration is given to both external and internal sources of information. Information the Company considers includes changes in the market, economic and legal environment in which the Company operates that are not within its control that could affect the recoverable amount of exploration and evaluation assets. Internal sources of information include the manner in which exploration and evaluation assets are being used or are expected to be used and indications of expected economic performance of the assets. Estimates include but are not limited to estimates of the discounted future pre-tax cash flows expected to be derived from the Company's mineral exploration properties, costs to sell the properties and the appropriate discount rate. Reductions in metal price forecasts, increases in estimated future costs of production, increases in estimated future capital costs, reductions in the amount of recoverable mineral reserves and mineral resources and/or adverse current economics can result in a write-down of the carrying amounts of the Company's exploration and evaluation assets.

#### **Income taxes and recoverability of potential deferred tax assets**

In assessing the probability of realizing income tax assets recognized, management makes estimates related to expectations of future taxable income, applicable tax planning opportunities, expected timing of reversals of existing temporary differences and the likelihood that tax positions taken will be sustained upon examination by applicable tax authorities. In making its assessments, management gives additional weight to positive and negative evidence



that can be objectively verified. Estimates of future taxable income are based on forecasted cash flows from operations and the application of existing tax laws in each jurisdiction.

The Company considers whether relevant tax planning opportunities are within the Company's control, are feasible, and are within management's ability to implement. Examination by applicable tax authorities is supported based on individual facts and circumstances of the relevant tax position examined in light of all available evidence. Where applicable tax laws and regulations are either unclear or subject to ongoing varying interpretations, it is reasonably possible that changes in these estimates can occur that materially affect the amounts of income tax assets recognized. Also, future changes in tax laws could limit the Company from realizing the tax benefits from the deferred tax assets. The Company reassesses unrecognized income tax assets at each reporting period.

### **Impairment (impairment reversal) of property and equipment**

Judgements are required to assess when internal or external indicators of impairment or impairment reversal exist, and impairment testing is required. Management considers internal and external sources of information including forecasted sales, cashflows and expected production volumes. Judgement is required to assess these internal and external factors when determining if the carrying amount of an asset is impaired, or in the case of a previously impaired asset, whether the carrying amount of the asset has been restored.

### **Share-based payments**

Management determines costs for share-based payments using market-based valuation techniques. The fair value of the market-based and performance-based share awards are determined at the date of grant using generally accepted valuation techniques. Assumptions are made and judgment used in applying valuation techniques. These assumptions and judgments include estimating the future volatility of the stock price, expected dividend yield, future employee turnover rates and future employee stock option exercise behaviours and corporate performance. Such judgments and assumptions are inherently uncertain. Changes in these assumptions affect the fair value estimates.

### **Contingencies**

By their nature, contingencies will only be resolved when one or more future events transpire. The assessment of contingencies inherently involves estimating the outcomes of future events. The Company has disclosed its disputes and was required to exercise judgement in assessing the recorded amounts.

### **Financial Instruments and Other Instruments**

The Company's financial instruments consist of cash and cash equivalents, accounts and other receivables, loan receivable, accounts payable and accrued liabilities, lease liability and long-term debt. Unless otherwise noted, the Company does not expect to be exposed to significant interest, currency or credit risks arising from these financial instruments. The Company estimates that the fair value of these financial instruments approximates carrying values.

As at June 30, 2023, the Company does not have any financial instruments recorded at fair value and that require classification within the fair value hierarchy.

Fair value estimates are made at the balance sheet date based on relevant market information and information about the financial instrument. These estimates are subjective in nature and involve uncertainties in significant matters of judgment and therefore cannot be determined with precision. Changes in assumptions could significantly affect these estimates.

### **Disclosure of Outstanding Share Data**

The Company is authorized to issue an unlimited number of shares, of which 99,586,981 (2022 – 99,363,058) shares were issued and outstanding as fully paid and non-assessable as at June 30, 2023.

Refer to Note 11(c) of the condensed interim consolidated financial statements for details regarding stock options issued and exercisable as at June 30, 2023.

As at the date hereof, the Company had 100,547,127 common shares issued and outstanding as fully paid and non-assessable, and stock options exercisable for an aggregate of 8,223,334 common shares outstanding.

## **Risks and Uncertainties**

The operations of the Company are speculative due to the high-risk nature of its business, which includes the development of certain intellectual property and the manufacturing of graphene related products, and which may include the future acquisition, financing, and development of the Albany Graphite Project. These risk factors could materially affect the Company's future operating results and could cause actual events to differ materially from those described in forward-looking information relating to the Company. Accordingly, any investment in securities of the Company is speculative and investors should not invest in securities of the Company unless they can afford to lose their entire investment.

The Company assesses and attempts to minimize the effects of these risks through careful management and planning of its operations and hiring qualified personnel but is subject to a number of limitations in managing risk resulting from its early stage of development. Below is a non-exhaustive summary of the principal risks and related uncertainties that may impact the Company. Such risk factors, as well as additional risks and uncertainties set out elsewhere in the Company's publicly filed documents, and additional risks and uncertainties not presently known to Company or that the Company currently deems immaterial, could have a material adverse effect on the Company's business, financial condition and results of operations or the trading price of the common shares.

During Q1 24, there was a decrease in credit risk as a result of the partial payment of \$2.5M received in respect of the loan receivable.

### Negative Operating Cash Flow

During the three-month period ended Jun 30, 2023, the Company had negative operating cash flow because its revenues did not exceed its operating expenses. In addition, as a result of the Company's business plans for the development of its products, the Company expects cash flow from operations to be negative until revenues improve to offset its operating expenditures. The Company's cash flow from operations may be affected in the future by expenditures incurred by the Company to continue to develop its products. To the extent the Company has negative cash flow in any future period, the Company may be required to allocate funds to fund such negative cash flow from operating activities. In order to stay in business, in the absence of cash flow from operations, the Company will have to raise funding through financing activities. However, there is no certainty the Company will be able to raise funds at all or on terms acceptable to the Company in the event it needs to do so. Furthermore, additional funds raised by the Company through the issuance of equity or convertible debt securities would cause the Company's current shareholders to experience dilution. Such securities also may grant rights, preferences or privileges senior to those of the Company's shareholders. The Company does not have any contractual restrictions on its ability to incur debt and, accordingly, the Company could incur significant amounts of indebtedness to finance its operations. Any such indebtedness could contain restrictive covenants, which likely would restrict the Company's operations.

### Uncertainties Relating to the Company's Business Plans

There is no assurance that broad successful commercial applications may be feasible for the Company. The Company is continuing to explore, develop, and test its current products and new products, and there can be no assurance that new uses of existing products or new products will be fully developed for commercial application, that test results will be successful, if completed at all, that any necessary permits or approvals required in order to market such products will be obtained by the Company, or that existing technology or products will become profitable. Furthermore, there is no assurance that the Company will complete any acquisitions or acquire any know-how or trade secrets to carry out certain

of its future objectives. Should the Company fail to achieve any of the foregoing, this could have a material adverse impact on the business and planned business of the Company.

The Company's business is in part dependent on patents, trade secret and other intellectual property laws of Canada, and potentially foreign jurisdictions. The Company may be unable to prevent third parties from using its intellectual property without its authorization. Some of the Company's current or future technologies and trade secrets may not be covered by any patent or patent application, and the Company's issued and pending patents may not provide the Company with any competitive advantage and could be challenged by third parties. The Company's inability to secure issuance of pending patent applications may limit its ability to protect the intellectual property rights these pending patent applications were intended to cover. The Company's competitors may attempt to design around its patents to avoid liability for infringement and, if successful, could adversely affect the Company's market share. Furthermore, the expiration of the Company's patents may lead to increased competition.

Additionally, the Company plans to construct facilities for some of its operations and business activities. There can be no assurance that locations will be secured on terms favourable to the Company or at all, that engineering plans will be completed or will be satisfactory for the intended business activities of the Company, that any required permitting will be obtained, that construction of such facilities will be completed, or that such facilities will ever become operational. If such facilities are not constructed, or do not become operational, or do not operate at the capacity required or anticipated, there could be a material adverse effect of the Company's planned business and operations.

#### Economic and Political Conditions

Worldwide financial and economic cycles or conditions are uncertain, and recovery from a business downturn or recession could be very slow and have a significant impact on the Company's business. The Company's business is sensitive to changes in economic and political conditions, including interest rates, currency issues, energy prices, trade issues, international or domestic conflicts or political crises, and epidemics or pandemics, such as the strain of COVID-19.

The credit and financial markets have experienced extreme volatility and disruptions due to the current conflict between Ukraine and Russia. The conflict is expected to have further global economic consequences, including but not limited to the possibility of severely diminished liquidity and credit availability, declines in consumer confidence, declines in economic growth, increases in inflation rates and uncertainty about economic and political stability. In addition, the United States and other countries have imposed sanctions on Russia which increases the risk that Russia, as a retaliatory action, may launch cyberattacks against the United States, its government, infrastructure and businesses. Any of the foregoing consequences, including those we cannot yet predict, may cause our business, financial condition, results of operations and the price of our ordinary shares to be adversely affected.

#### Revenue from Graphene-related Products Sales; Long and Complex Sales Cycle

To date, the Company has recorded minimal revenue from its graphene enhanced products sales. There can be no assurance that significant losses will not occur in the near future or that the Company will be profitable in the future. The Company's operating expenses, and capital expenditures may increase in subsequent years. The Company expects to continue to incur losses unless and until such time as it enters into long-term and large-volume supply agreements and generates sufficient revenues to fund its continuing operations.

## Intellectual Property

The Company relies on the patent, trade secret and other intellectual property laws of Canada, and foreign jurisdictions. The Company may be unable to prevent third parties from using its intellectual property without its authorization. The unauthorized use of the Company's intellectual property could reduce any competitive advantage that it has developed, reduce its market share or otherwise harm its business. In the event of unauthorized use of the Company's intellectual property, litigation to protect and enforce the Company's rights could be costly, and the Company may not prevail.

Some of the Company's current or future technologies and trade secrets may not be covered by any patent or patent application, and the Company's issued and pending patents may not provide the Company with any competitive advantage and could be challenged by third parties. The Company's inability to secure issuance of pending patent applications may limit its ability to protect the intellectual property rights these pending patent applications were intended to cover.

The Company's competitors may attempt to design around its patents to avoid liability for infringement and, if successful, could adversely affect the Company's market share. Furthermore, the expiration of the Company's patents may lead to increased competition.

In addition, effective patent, trade secret and other intellectual property protection may be unavailable or limited in some foreign countries. In some countries, the Company may not apply for patent or other intellectual property protection. The Company also relies on unpatented technological innovation and other trade secrets to develop and maintain its competitive position. Although the Company generally enters into confidentiality agreements with its employees and third parties to protect its intellectual property, these confidentiality agreements are limited in duration, could be breached and may not provide meaningful protection of its trade secrets. Adequate remedies may not be available if there is an unauthorized use or disclosure of the Company's trade secrets and manufacturing expertise. In addition, others may obtain knowledge about the Company's trade secrets through independent development or by legal means. The failure to protect the Company's processes, technology, trade secrets and proprietary manufacturing expertise, methods and compounds could have a material adverse effect on its business by jeopardizing critical intellectual property.

Where a product formulation or process is kept as a trade secret, third parties may independently develop or invent and patent products or processes identical to such trade secret products or processes. This could have a material adverse effect on the Company's ability to make and sell products or use such processes and could potentially result in costly litigation in which the Company might not prevail. The Company could face intellectual property infringement claims that could result in significant legal costs and damages and impede its ability to produce key products, which could have a material adverse effect on its business, financial condition, and results of operations.

## Product Development and Technological Change

There is no assurance that broad successful commercial applications for the Company's products may be feasible. Most, if not all, of the scientific and engineering data related to the Company's products has been generated by the Company's own laboratories or laboratory environments of the Company's partners, such as universities. There can be no assurance that laboratory data translates to or is representative in commercial applications.

Additionally, the industries in which the Company seeks to operate are characterized by rapid technological change and frequent new product introductions. Part of the Company's business strategy is to monitor such changes and take steps to remain technologically current, but there is no assurance that such a strategy will be successful. If the Company is not able to adapt to new advances in materials sciences, or if unforeseen technologies or materials emerge that are not compatible with the Company's or that could replace its products, the Company's revenues and business would likely be adversely affected.

## Market Development and Growth

Failure to further develop the Company's key markets and existing geographic markets or to successfully expand its business in the future into new markets could have an adverse impact on sales growth and operating results. The Company's ability to further penetrate its key markets and the existing geographic markets in which it competes and/or aims to compete, and to successfully expand its business into other countries, is subject to numerous factors, many of which are beyond its control. There can be no assurance that efforts to increase market penetration in the Company's key markets and existing geographic markets will be successful. Failure to achieve these goals may have a material adverse effect on the Company's operating results.

## Unpredictable Sales Cycles

The sales cycle for graphene products may range considerably from one to multiple years from the time a customer begins testing the Company's product until the time that they could be used in a commercial product. Timing of product introduction could vary significantly based on the target market.

Additionally, any demand for the Company's products based in whole or in part on the coronavirus (COVID-19) pandemic could materially change in the event the pandemic ends or decreases in severity. The Company has demonstrated little track record of success in completing customer development projects, which makes it difficult to evaluate the likelihood of future success. The sales and development cycles for the Company's products are subject to customer budgetary constraints, internal acceptance procedures, competitive product assessments, scientific and development resource allocations, and other factors beyond the Company's control. If the Company is not able to successfully accommodate these factors to achieve commercial success, the Company may be unable to achieve sufficient sales to reach profitability.

## Government Regulation and Import/Export Controls

The Company's future operations, including development, and commencement and continuation of commercial production, require licenses, permits or other approvals from various federal, provincial, local and potentially foreign governmental authorities, and such operations are or will be governed by laws and regulations relating to production, exports, taxes, labor standards, occupational health and safety, waste disposal, toxic substances, prospecting, development, mining, land use, water use, environmental protection, land claims of indigenous people and other matters. Furthermore, in certain foreign jurisdictions, these regulatory requirements may be more stringent than those in Canada. Certain export control laws or economic sanctions laws may include restrictions or prohibitions on the sale or supply of certain products and services to embargoed or sanctioned countries, governments, persons and entities. In addition, various countries regulate the import of certain technology, including import and export permitting and licensing requirements, and have enacted or could enact laws that could limit the Company's ability to distribute its products. Changes in the Company's products, or future changes in export and import regulations may prevent any potential international customers from utilizing the Company's products globally or, in some cases, prevent the export or import of the Company's products to certain countries, governments, or persons altogether.

Any change in export or import regulations, economic sanctions, or related legislation, or change in the countries, governments, persons, or technologies targeted by such regulations, could result in decreased use of the Company's products in the future by, or in the Company's decreased ability to export or sell its products to, potential international customers. Any limitation on the Company's ability to export or sell its products would likely adversely affect the Company's future business, results of operations, and financial results.

Large volume production of graphene requires permits and approvals from various government authorities, and is subject to extensive federal, provincial, state, and local laws and regulations governing development, production, exports, taxes, labour standards, occupational health and safety, environment, and other matters. As graphene is a new chemical substance, production and sale of graphene may be subject to specific occupational health and safety and environment regulatory approvals in different jurisdictions including, without limitations, under the *Canadian Environmental Protection Act* (Canada), the *Food and Drug Act* (Canada), the *Toxic Substances Control Act* (USA), the *Food Drug and Cosmetic Act* (USA) and the *Registration, Evaluation, Authorization and Restriction of Chemicals* (Europe).

Health Canada also regulates certain markets into which the Company intends to supply products or license its intellectual property. There is no assurance that Health Canada or any other body will grant license for sales into markets it regulates. Each foreign jurisdiction for the Company's products is regulated and no assurance exists that sales of graphene-related products will be permitted. Any inability by the Company to obtain approval from Health Canada and/or international bodies could have a material adverse impact of the business of the Company.

The Company is also subject to consumer protection laws that may impact its sales and marketing efforts. These laws, as well as any changes in these laws, could make it more difficult for the Company to sell and market its products. These laws and regulations are subject to change over time and thus the Company must continue to monitor and dedicate resources to ensure continued compliance. Non-compliance with applicable regulations or requirements could subject the Company to investigations, sanctions, enforcement actions, disgorgement of profits, fines, damages, civil and criminal penalties, or injunctions. If any governmental sanctions are imposed, or if the Company does not prevail in any possible civil or criminal litigation, its business, operating results, and financial condition could be materially adversely affected.

Additionally, in order for the Company to carry out its activities, any required licenses and permits must be obtained and kept current. There can be no assurance, however, that the Company will obtain on reasonable terms or at all the permits and approvals, and the renewals thereof, which it may require for the conduct of its future operations or that compliance with applicable laws, regulations, permits and approvals will not have an adverse effect on the Company's business plans. Possible future environmental and mineral tax legislation, regulations and actions could cause additional expense, capital expenditures, restrictions and delay on the Company's planned exploration and operations, the extent of which cannot be predicted.

Failure to comply with applicable laws, regulations and permitting requirements may result in enforcement actions thereunder, including orders issued by regulatory or judicial authorities causing operations to cease or be curtailed, and may include corrective measures requiring capital expenditures, installation of additional equipment, or remedial actions. Parties engaged in mining operations may be required to compensate those suffering loss or damage by reason of the mining activities and may have civil or criminal fines or penalties imposed for violations of applicable laws or regulations.

### Industry Competition

The Company seeks to compete with other graphene and manufacturing companies, in highly competitive markets. Some of the Company's competitors have substantially greater financial, marketing and other resources and higher market share than the Company has in certain products or geographic areas. As the markets for the Company's products expand, additional competition may emerge, and competitors may commit more resources to products which directly compete with the Company's products. There can be no assurance that the Company will be able to compete successfully with existing competitors or be able to develop any market for its products, or that its business will not be adversely affected by increased competition or by new competitors.

There is no assurance that the Company will continue to be able to compete successfully with its competitors in acquiring such properties or prospects and any such inability could have a material adverse effect on the Company's business and financial condition.



### Lack of Trading Market for Graphene

Unlike commodity minerals such as copper, gold or silver, industrial minerals such as graphene precursor graphene materials and graphite do not have a metals exchange or an open market upon which to trade and therefore prices are not set in an open market or publicly traded market, and there can be no assurance that certain items can be sold or purchased at any time. As prices are set with private suppliers and private customers, it is difficult to predict what market prices may be at the time of any transaction. There can be no guarantees that the Company will be able to sell its graphene products in a profitable manner, or at all.

### Shortages

The Company will be dependent on various supplies, equipment, parts and labour, and the services of contractors to carry out its business objectives. The availability and cost of such supplies, equipment, parts or labour or the services of contractors could have a material adverse effect on the Company's ability to successfully carry out its exploration and development activities.

### Liquidity Concerns and Future Financing

The Company's approach to managing liquidity risk is to ensure that it will have sufficient liquidity to meet liabilities when due. As of June 30, 2023, the Company had a cash balance of \$10,726,070 (March 31, 2023: \$10,357,317) to settle current liabilities of \$1,909,302 (March 31, 2023: \$2,419,818). The Company is ultimately dependent on the commercial sales of its products. Any delay in the sales of such products could require additional financing. There can be no assurance that the Company will be successful in obtaining the required financing as and when needed. Volatile markets may make it difficult or impossible for the Company to obtain debt financing or equity financing on favourable terms, if at all. Failure to obtain additional financing on a timely basis may cause the Company to postpone or slow down its development plans or reduce or terminate some or all of its activities.

### Reliance on Key Personnel

The Company's development to date has depended, and in the future, will depend largely on the efforts of key management and other key personnel. Loss of any of these people, particularly to competitors, could have a material adverse effect on the Company's business. Further, with respect to the future development of the Company's projects, it may become necessary to attract both international and local personnel for such development. The marketplace for key skilled personnel is becoming more competitive, which means the cost of hiring, training, and retaining such personnel may increase. Factors outside the Company's control, including competition for human capital and the high-level of technical expertise and experience required to execute this development will affect the Company's ability to employ the specific personnel required. The failure to retain or attract a sufficient number of key skilled personnel could have a material adverse effect on the Company's business, results of operations, and financial condition. The Company has not taken out and does not intend to take out "key man insurance" in respect of any directors, officer, or other employees.

### Qualified Employees

Recruiting and retaining qualified personnel is critical to the Company's success. Especially if it relates to its graphene operations, finding skilled scientists and a sales team familiar with the subject matter is difficult. As the Company grows further, the need for skilled labour will increase. The number of persons skilled in the high-tech manufacturing business is limited and competition for this workforce is intense. This may adversely affect the business of the Company if it is unable to recruit and retain qualified personnel as and when required.

## Cybersecurity Threats

The reliability and security of the Company's information technology ("IT") systems are important to the Company's business and operations. Although the Company has established and continues to enhance security controls intended to protect the Company's IT systems and infrastructure, there is no guarantee that such security measures will be effective in preventing unauthorized physical access or cyberattacks. A significant breach of the Company's IT systems could, among other things, cause disruptions in the Company's manufacturing operations (such as operational delays from production downtime, inability to manage the supply chain or produce products for customers, disruptions in inventory management), lead to the loss, destruction, corruption or inappropriate use of sensitive data, including employee information or intellectual property, result in lost revenues due to theft of funds or due to a disruption of activities, including remediation costs, or from litigation, fines and liability or higher insurance premiums, the costs of maintaining security and effective IT systems, which could negatively affect results of operations and the potential adverse impact of changing laws and regulations related to cybersecurity or result in theft of the Company's, its customers' or suppliers' intellectual property or confidential information. If any of the foregoing events (or other events related to cybersecurity) occurs, the Company may be subject to a number of consequences, including reputational damage, a diminished competitive advantage and negative impacts on future opportunities which could have a material adverse effect on the Company.

## Share Price Fluctuations

The market price of securities of many companies, particularly development stage companies, experience wide fluctuations in price that are not necessarily related to the operating performance, underlying asset values or prospects of such companies. There can be no assurance that fluctuations in the Company's share price will not occur. In particular, the fluctuations may be exaggerated if the trading volume of the Company's common shares is low.

## Cost Absorption and Purchase Orders

Especially as it relates to its activities in the transportation industry, and given the current trends in that industry, the Company is under continuing pressure to absorb costs related to product design and development, engineering, program management, prototypes and validation. In particular, OEMs are requesting that suppliers pay for the above costs and recover these costs through the piece price of the applicable component. Contract volumes for customer programs not yet in production are based on the Company's customers' estimates of their own future production levels. However, actual production volumes may vary significantly from these estimates due to a reduction in consumer demand or new product launch delays, often without any compensation to the supplier by its OEM customer. Typical purchase orders issued by customers do not require that they purchase a minimum number of the Company's products. For programs currently under production, the Company is generally unable to request price changes when volumes differ significantly from production estimates used during the quotation stage. If estimated production volumes are not achieved, the product development, design, engineering, prototype and validation costs incurred by the Company may not be fully recovered. Similarly, future pricing pressure or volume reductions by the Company's customers may also reduce the amount of amortized costs otherwise recoverable in the piece price of the Company's products. Either of these factors could have an adverse effect on the Company's profitability. While it is generally the case that once the Company receives a purchase order for products of a particular vehicle program it would continue to supply those products until the end of such program, customers could cease to source their production requirements from the Company for a variety of reasons, including the Company's refusal to accept demands for price reductions or other concessions.

## Acquisitions

The Company could seek to acquire complementary businesses, assets, technologies, services or products, at competitive prices. The Company could pursue acquisitions in those product areas which were identified as key to the Company's long-term business strategy. However, as a result of intense competition in these strategic areas, the Company may not be able to acquire the targets needed to achieve its strategic objectives. The completion of such transactions poses additional risks to the Company's business.

Acquisitions are subject to a range of inherent risks, including the assumption of incremental regulatory/compliance, pricing, supply chain, commodities, labor relations, litigation, environmental, pensions, warranty, recall, IT, tax or other risks. Although the Company seeks to conduct appropriate levels of due diligence on acquisition targets, these efforts may not always prove to be sufficient in identifying all risks and liabilities related to the acquisition, including as a result of: limited access to information; time constraints for conducting due diligence; inability to access target company facilities and/or personnel; or other limitations in the due diligence process. Additionally, the Company may identify risks and liabilities that cannot be sufficiently mitigated through appropriate contractual or other protections. The realization of any such risks could have a material adverse effect on the Company's operations or profitability. The benefit to the Company of previous and future acquisitions is highly dependent on the Company's ability to integrate the acquired businesses and their technologies, employees and products into the Company, and the Company may incur costs associated with integrating and rationalizing the facilities (some of which may need to be closed in the future).

The Company cannot be certain that it will successfully integrate acquired businesses or that acquisitions will ultimately benefit the Company. Any failure to successfully integrate businesses or failure of the businesses to benefit the Company could have a material adverse effect on its business and results of operations. Such transactions may also result in additional dilution to the Company's shareholders or increased debt. Such transactions may involve partners, and the formula for determining contractual sale provisions may be subject to a variety of factors that may not be easily quantified or estimated until the time of sale (such as market conditions and determining fair market value).

#### Launch and Operational Costs

The launch of new business, in an existing or new facility, is a complex process, the success of which depends on a wide range of factors, including the production readiness of the Company and its suppliers, as well as factors related to tooling, equipment, employees, initial product quality and other factors. A failure to successfully launch material new or takeover business could have an adverse effect on profitability. The Company's manufacturing processes are vulnerable to operational problems that can impair its ability to manufacture its products in a timely manner, or which may not be performing at expected levels of profitability. The Company's facilities and proposed facilities contain complex and sophisticated equipment that is used in its manufacturing processes. The Company could experience equipment failure in the future due to wear and tear, design error or operator error, among other things, which could have an adverse effect on profitability. From time to time, the Company may have some operating divisions which are not performing at expected levels of profitability. Significant underperformance of one or more operating divisions could have a material adverse effect on the Company's profitability and operations.

#### Material and Commodity Prices

Prices for key raw materials and commodities used in the production of graphene-based products, as well as energy prices, have proven to be volatile at certain times. To the extent that the Company is unable to fully mitigate its exposure to price change of key raw materials and commodities, particularly through engineering products with reduced content, by passing price increases to customers, or otherwise, such additional costs could have a material adverse effect on profitability. Increased energy prices could also have an impact on production or transportation costs which in turn could affect competitiveness.

#### Uninsured Risks

The Company maintains insurance to cover normal business risks. In the course of its manufacturing businesses, certain risks and, in particular, unexpected or unusual catastrophic events including explosions and fire may occur. It is not always possible to fully insure against such risks as a result of high premiums or other reasons. Should such liabilities arise, they could reduce or eliminate any future profitability and result in increasing costs and a decline in the value of the common shares of the Company.

## Litigation

The Company has entered into legally binding agreements with various third parties, including supply, license, distribution, non-disclosure, consulting, and partnership agreements. The interpretation of the rights and obligations that arise from such agreements is open to interpretation and the Company may disagree with the position taken by the various other parties resulting in a dispute that could potentially initiate litigation and cause the Company to incur legal costs in the future. Given the speculative and unpredictable nature of litigation, the outcome of any such disputes could have a material adverse effect on the Company's business.

## Credit Risk

As at June 30, 2023, the Company's credit risk was primarily attributable to cash, accounts and other receivables and loan receivable. The Company issued a loan receivable during the year ended March 31, 2022, further increasing its exposure to credit risk. In Q1 24, a partial payment of \$2.5M was received against the loan receivable, decreasing credit risk. The remaining \$0.5M is due September 29, 2023. The Company performed an analysis of collectivity and based on the collateral against the loan, determined that no provision was required. Financial instruments included in accounts and other receivables consisted of trade receivables generated through sales as well as recoverable Harmonized Sale Tax. The Company's cash is held with reputable financial institutions. Management believes that the credit risk with respect to financial instruments included in accounts and other receivables is remote.

## Interest Rate Risk

The Company has cash and cash equivalent balances at federally regulated Canadian banks. The Company periodically monitors the investments it makes, the security of such investments and is satisfied with the credit ratings of its banks. The Company closely monitors interest rates to determine the appropriate course of action to be taken by the Company.

## Price Risk

The Company is exposed to price risk with respect to commodity prices. The Company closely monitors commodity prices to determine the appropriate course of action to be taken by the Company.

## Financial Capability and Additional Financing

The Company has limited financial resources and there is no assurance that sufficient additional funding will be available to enable it to fulfill its business objectives or obligations, on acceptable terms or at all. Unanticipated expenses and other developments could cause existing funds to be depleted sooner than expected. In the event that its existing cash resources are inadequate to fund operational expenses, and in order to fund the planned business objectives of the Company, the Company will be required to raise additional financing from external sources, such as debt financing, equity financing or joint ventures. The Company's ability to raise additional equity financing may be affected by numerous factors beyond the Company's control, including, but not limited to, adverse market conditions, commodity price changes and an economic downturn. Failure to obtain additional funding on a timely basis could result in delay or indefinite postponement of the development of the Company's business and could cause the Company to reduce or terminate its operations. Additional funds raised by the Company from treasury share issuances may result in significant dilution to existing shareholders, a depressive effect on the price of the common shares and/or a change of control.

## Permits and Government Regulation

Although the Company believes it has all of the necessary permits to carry out the proposed business programs, the operations of the Company may require licenses and permits from time to time from various governmental authorities to carry out exploration and development at its projects or locations. Obtaining permits can be a complex, time-consuming process. There can be no assurance that the Company will be able to obtain the necessary licenses and permits on acceptable terms, in a timely manner or at all. The costs and delays associated with obtaining permits and complying with these permits and applicable laws and regulations could stop or materially delay or restrict the Company from continuing or proceeding with existing or future operations or projects. Any failure to comply with permits and applicable laws and regulations, even if inadvertent, could result in the interruption or closure of operations or material fines, penalties or other liabilities. In addition, the requirements applicable to sustain existing permits and licenses may change or become more stringent over time and there is no assurance that the Company will have the resources or expertise to meet its obligations under such licenses and permits.

## Fluctuating Prices

The profitability of the Company's operations will be dependent upon the market price of the ZenGUARD™ masks and other products, their global acceptance and demand along with their regulatory approvals in other jurisdictions. The level of interest rates, rate of inflation, production costs, healthcare and consumer demand, and stability of exchange rates can all cause significant fluctuations in revenue. Such external economic factors are in turn influenced by changes in international purchasing patterns, COVID-19 pandemic situation, monetary systems and political developments.

## Environmental Regulation

AGC's Albany Graphite Project is subject to environmental laws and regulations which may materially and adversely affect its future operations. These laws and regulations control the exploration and development of the Albany Graphite Project and their effects on the environment, including air and water quality, waste handling and disposal, the protection of different species of plant and animal life, and the preservation of lands. These laws and regulations will require AGC to acquire permits and other authorizations for certain activities. There can be no assurance that AGC will be able to acquire such necessary permits or authorizations on a timely basis, if at all.

Further, environmental legislation is evolving in a manner which will require stricter standards and enforcement, increased fines and penalties for non-compliance, more stringent environmental assessments of proposed projects and a heightened degree of responsibility for companies and their officers, directors and employees. There is no assurance that future changes in environmental regulation, if any, will not adversely affect AGC's operations.

AGC is not currently insured against most environmental risks. Without such insurance, and if AGC becomes subject to environmental liabilities, the payment of such liabilities would reduce or eliminate its available funds or could exceed the funds AGC has to pay such liabilities and result in bankruptcy.

## Economic Dependence on Supply Agreements

Currently, the Company has entered into a limited number of supply or sales agreements for the sale of its products. Until additional supply agreements are executed by the Company, the Company's revenues will be completely dependent on such agreements. If such agreements are terminated, or if less of the Company's product than anticipated is purchased pursuant to such agreements, this could have a material adverse impact on the Company's business, operations and results.

## **Legal proceedings and regulatory actions**

Other than as set out below, the Company was not subject to any material legal proceedings during its most recently completed financial year, nor is the Company or any of its properties a party to or the subject of any such proceedings, and no such proceedings are known to be contemplated. The Company may be involved in routine, non-material litigation arising in the ordinary course of business, from time to time.

There were no penalties or sanctions imposed against the Company by a court relating to provincial and territorial securities legislation or by a securities regulatory authority during its most recently completed financial year, nor have there been any other penalties or sanctions imposed by a court or regulatory body against the Company, and the Company has not entered into any settlement agreements before a court relating to provincial and territorial securities legislation or with a securities regulatory authority.

The Company is involved in legal proceedings relating to claims involving a former director and officer of the Company. The claim was commenced in the Ontario Superior Court of Justice on September 26, 2018, by Aubrey Eveleigh and Eveleigh Geological Consulting. Mr. Eveleigh seeks damages in excess of \$5,000,000 in connection with an employment dispute. The Company is defending the claim and the proceedings remain ongoing, though the Company believes that the risk of significant loss in respect of the litigation is remote.

The Company subsequently commenced a claim against Mr. Eveleigh and Eveleigh Geological Consulting on March 24, 2020, in the Ontario Superior Court of Justice (Commercial List), in connection with allegations of past breaches Mr. Eveleigh has defended the claim.

On November 28, 2022, following the discovery process, the Company amongst other things, amended its claim to: (i) seek an order that Mr. Eveleigh disgorge any benefits obtained as a result of his misconduct; (ii) seek an order cancelling certain common shares of the Company held by Mr. Eveleigh; (iii) seek an order declaring that Mr. Eveleigh has no entitlement to any royalty payments or success fees in connection with the Albany Graphite Project; and (iv) seek an order that declares a constructive trust in favour of the Company over any and all monies received, directly or indirectly. The next step is to proceed to trial.

On January 29, 2021, the Company was served with a statement claim issued by Graphene Composites Ltd. and is in the process of defending the action, which it considers frivolous and without merit.

The Company has considered the allegations as set out in the claim and, in light of the facts, the lack of clarity in the claim, the assessment of the merits of the claim and the defenses available to the Company, and the Company's conclusion is that the risk of the Company suffering loss in respect of the claim is remote, and therefore the Company determined the claim not to be material or constituting "significant litigation" pursuant to the policies of the TSXV. The Company continues to view this claim as frivolous and will continue to vigorously defend itself against these allegations.

## **Proposed Transactions**

As is typical of rapidly growing companies, the Company is continually reviewing partnerships, potential merger, acquisition, investment and joint venture transactions and opportunities, which includes opportunities with respect to the Albany Graphite Project.

As described under "*Albany Graphite Project*", the Company transferred to AGC the ownership of the Albany Graphite Project on May 23, 2023, and the Company intends to complete the AGC Financing.

## **Employment Agreements**

The Company has an employment agreement with its Chief Executive Officer. During the period ended June 30, 2023, the salary level for the individual pursuant to the employment agreement is \$325,000 annually.



The Company has an employment agreement with its Executive Chairman. During the period ended June 30, 2023, the salary level for the individual pursuant to the employment agreement is \$300,000 annually.

The Company has an employment agreement with its Chief Financial Officer. During the period ended June 30, 2023, the salary level for the individual pursuant to the employment agreement is \$240,000 annually.

### **Contingent Liabilities**

In September 2018, the Company received a statement of claim from a former employee. The Company is in the process of defending the claim but views the claim as unmeritorious. On March 24, 2020, the Company commenced an action claim against the former employee for relief relating to contracts and transactions between that employee and the Company, seeking to set aside those agreements and, where applicable, seeking disgorgement of unspecified amounts relating to benefits obtained under those agreements. Although there can be no assurance that any particular claim will be resolved in the Company's favour, management does not believe that the outcome of any claim or potential claims of which it is currently aware will have a material adverse effect on the Company.

### **Significant Accounting Policies**

A detailed summary of all of the Company's significant accounting policies is included in Note 2 to the March 31, 2023, audited annual consolidated financial statements.

### **Internal Controls over Financial Reporting**

Management is responsible for the design of internal controls over financial reporting to provide reasonable assurance regarding the reliability of financial reporting and the preparation of the consolidated financial statements in accordance with IFRS. Based on regular reviews of its internal control procedures an evaluation of the effectiveness of the Company's internal control over financial reporting was conducted as of March 31, 2023, based on the criteria described in "*Internal Control – Integrated Framework (2013)*" issued by the Committee of Sponsoring Organizations of the Treadway Commission. Based on this assessment, management has determined that its internal controls and procedures are not effective in providing reasonable assurance that financial information is recorded, processed, summarized and reported in a timely manner due to the identification of material weaknesses in internal control.

#### Material Weaknesses

A material weakness is a deficiency, or a combination of deficiencies, in internal control over financial reporting, such that there is a reasonable possibility that a material misstatement of our annual financial statements will not be prevented or detected on a timely basis. The material weaknesses that we identified in our internal controls over financial reporting as of the year ended March 31, 2023, are still present at June 30, 2023 and are as follows:

*Absence of effective activity-level controls over the purchase, ownership, shipment and recording of inventory. Successful remediation will require the implementation of controls over the movement of purchased, held and sold inventory and the acquisition and adoption of an appropriate inventory software solution including training of production and accounting staff.*

*Lack of controls over the accurate recording of period revenue in accordance with International Financial Reporting Standards based on the underlying shipment terms and/or recognition criteria inherent in the contractual arrangements.*

We have developed and commenced implementation of a remediation plan to address this weakness by strengthening our revenue recognition and financial reporting controls by adding new and additional resources with adequate technical knowledge and training.

Specific remediation plans and actions that the Company implemented during the year included the following:

- Modification of the Company's plant associate's job description to include procurement (fiscal Q2 2023). This was completed in fiscal Q3 2023
- Plant associate began tracking all inventory including monthly reconciliation (fiscal Q2 2023). This process commenced in fiscal Q3 2023;
- Controller (new hire engaged in fiscal Q3 2023) to assist both operations and finance teams in tracking inventory. New role created and controller commenced during fiscal Q3 2023;
- Training of operations and finance departments on Fishbowl inventory management software (fiscal Q3 & Q4 2023). A formal implementation team was formed made up of operations and finance personnel who meet weekly on training and the implementation of the inventory management software. This training is ongoing and fully implementation is not yet completed; and
- Implementation of formal Purchase Order processes (fiscal Q3 2023). Implemented and part of training of implementation team.

*Lack of controls over the accurate valuation and presentation of the exploration and evaluation asset ("E&E asset") performed at September 30, 2021 did not properly consider that the asset could have value even if there were no immediate plans to continue with the Albany Project.*

### **Changes to Internal Control over Financial Reporting**

There have been no changes to the Company's internal controls over financial reporting that occurred during the three-month period ended June 30, 2022, that have materially affected, or are reasonably likely to materially affect, the Company's internal control over financial reporting.

### **Disclosure Controls**

Management is also responsible for the design and effectiveness of disclosure controls and procedures to provide reasonable assurance that material information related to the Company is made known to the Company's certifying officers. Based on their evaluation, the Chief Executive Officer and the Chief Financial Officer have concluded that the disclosure controls and procedures were ineffective as a result of the material weaknesses in internal control over financial reporting described above.