



**Annual Information Form**

**ZENTEK LTD.**

For the year ended March 31, 2023

Dated as of June 29, 2023

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## PRELIMINARY NOTES

This Annual Information Form (“AIF”) is prepared in the form prescribed by National Instrument 51-102 - *Continuous Disclosure Obligations* of the Canadian Securities Administrators. All dollar amounts in this AIF are expressed in Canadian dollars unless otherwise indicated. All information in this AIF is as of March 31, 2023, unless otherwise indicated.

## FORWARD-LOOKING INFORMATION

This AIF and the documents incorporated into this AIF 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 AIF 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 Zentek Ltd. (the “**Company**”); statements relating to the business and future activities of the Company after the date of this AIF; market position, ability to compete and future financial or operating performance of the Company after the date of this AIF; 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 Factors* in this AIF.

The list of risk factors set out in this AIF 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 AIF 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.

## **CORPORATE STRUCTURE**

### **Name, Address, and Incorporation**

The Company was incorporated under the *Business Corporations Act* (Ontario) as a numbered company on July 29, 2008. Pursuant to Articles of Amendment dated November 24, 2009, the Company changed its name to Zenyatta Ventures Ltd. Pursuant to Articles of Amendment dated January 1, 2019, the Company changed its name 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 Company's registered office is located at 129 Frederica Street West, Thunder Bay, Ontario P7E 3V8 and its head office and principal place of business is located at 24 Corporate Court, Guelph, Ontario N1G 5G5.

The Company is a reporting issuer in the Provinces of British Columbia, Alberta, Saskatchewan, Manitoba, Ontario, New Brunswick, Nova Scotia, Prince Edward Island, and Newfoundland and Labrador.

The common shares of the Company are listed for trading on the TSX Venture Exchange ("**TSXV**") under the symbol "ZEN" (listed in December 2010) and in the United States on the Nasdaq Capital Market ("**Nasdaq**") under the symbol "ZTEK" (listed in March 2022).

### **Inter-corporate Relationships**

The Company has one material wholly-owned subsidiary, Albany Graphite Corp. ("**AGC**"), incorporated under the laws of the Province of British Columbia.

## **GENERAL DEVELOPMENT OF THE BUSINESS**

Originally, 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 in the "Arc of Fire" area in Northern Ontario, Canada. 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 (the “**Board**”) 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 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 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.

### **Three Year History**

#### Current Business

##### ZenGUARD™ Antimicrobial Compound

At the Company’s financial year-end, 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 (the “**EkoMed 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 (the “**VMedCare Agreement**”) 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 March 31, 2023 which are awaiting testing results.

On January 19, 2023, the Company announced that it had signed a Distribution Agreement (the “**Southmedic Agreement**”) with Southmedic Inc. (“**Southmedic**”) for the distribution of the Company’s patented ZenGUARD™ surgical masks. Pursuant to the Southmedic 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 March 31, 2023, the Company had an inventory of approximately 1.4 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 March 31, 2023, approximately \$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 is expected to be commercially operational in fiscal Q1 2024. Delays were caused by safety certifications including appropriate machine guarding that were not originally anticipated. The Company has spent approximately \$1.9M as of March 31, 2023, related to the coating line and expects additional expenditures of approximately \$50,000 for such training, guarding, safety certifications and commissioning.

#### *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 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 March 31, 2023, the Company has spent \$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.

#### ZenGUARD™ 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.

On December 22, 2020, the Company announced that testing results from the University Health Network/Mount Sinai Hospital Department of Microbiology in Toronto indicated that the ZenGUARD™ compound may also be beneficial in the treatment of numerous human contracted pathogens, including upper and lower respiratory tract infections, where COVID-19 is a major contributor, as well as drug resistant organisms. The report delivered to the Company dated December 18, 2020, entitled "*Evaluation of Graphene Oxide with Silver Cations (GO-Ag+) as an Antibacterial Agent against Respiratory Pathogens*", stated that if the Graphene 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.

On December 29, 2020, the Company announced an update on cytotoxicity testing of the ZenGUARD™ compound and the effectiveness as a coating following testing completed at McMaster University's Centre for Microbial Chemical Biology and Mount Sinai Hospital. The preliminary testing confirmed the ZenGUARD™ compound's efficacy with fungi and bacteria in vitro at low concentrations.

On March 17, 2021, the Company announced that testing of the Company's ZenGUARD™ compound against four gram-positive and nine-gram negative bacteria with antimicrobial-resistance, including multidrug-resistant variants like methicillin-resistant staphylococcus aureus, had been completed. Testing demonstrated that the compound was 99.9% effective against bacteria, and fungi at low concentrations. Testing was conducted by Dr. Tony Mazzulli, the Microbiologist-in-chief at Mount Sinai Hospital.

In a news release on April 13, 2021, the Company confirmed that safety testing results received from Nucro Technics indicated that the ZenGUARD™ compound did not lead to skin irritation or sensitivity as required in ISO 10993-10 for its Class I medical device i.e., surgical masks.

On October 6, 2021, the Company announced the filing of an international patent application under the PCT for ZenGUARD™, which patent application was published on March 24, 2022. The Company also saw the transfer from the University of Guelph of the rights, under its PCT application, for the ECE process to produce GO. 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 this technology.

On February 28, 2022, the Company announced that it had purchased its research and development facility in Guelph, Ontario for \$2.3 million. The facility continues to be a dedicated location to conduct ongoing research and development activities in pursuit of developing new intellectual property for GO and other nanomaterials and refining the Company's existing technologies.

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%.

### Business in Development

#### *Aptamer-Based Rapid Detection Technology*

On June 17, 2021, the Company announced that it had signed an exclusive agreement with McMaster University dated June 11, 2021, to be the global commercializing partner for a newly developed aptamer-based rapid detection technology to detect SARS-CoV-2 in patients through saliva samples. 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 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 filed a provisional patent 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 full patent application with the Patent Cooperation Treaty, the international patent office, for Nanomaterial-Enhanced Elastomer for Passive Ice Accretion Prevention. The Company disclosed this on September 19, 2022. The patent application is expected to publish approximately six months from the date of filing, marking the beginning of the twelve-month national phase for the Company to apply directly in each country of interest.

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.

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. 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 \$37,300 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 March 31, 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 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 a patent application under the Patent Cooperation Treaty on May 17, 2022.

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 a Provisional Patent 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™

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.

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 patent application filed on December 21, 2021, under the Patent Cooperation Treaty entitled “*Graphene-Silver Nanocomposites and Uses For Same As a Broad-Spectrum Antimicrobial*” which was published on June 23, 2022.

On July 18, 2022, the Company filed a provisional patent on the use of ZenGUARD™ as an anti-inflammatory agent for dermatological conditions.

#### 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 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 Northern 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 \$7.5M in available exploration reserves.

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. 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 strategic financial advisor with respect to potential transactions relating to the Albany Graphite Project. This engagement concluded on January 16, 2023.

On February 15, 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 stock exchange. Albany was incorporated on February 23, 2023, for this purpose.

### Financings

On June 29, 2020, the Company announced that it closed the first tranche of a non-brokered private placement through the issuance of 1,795,491 units at a price of \$0.60 per unit, for gross proceeds of \$1,077,294.80. Each unit consisted of one common share of the Company and one half of one non-transferable share purchase warrant. Each whole warrant entitles the holder thereof to acquire one additional common share at an exercise price of \$0.80 per warrant, exercisable for a period of twenty-four months from the date of issuance.

On July 6, 2020, the Company announced that it closed the second tranche of a non-brokered private placement through the issuance of 1,621,175 units at a price of \$0.60 per unit, for gross proceeds of \$972,705. Each unit consisted of one common share of the Company and one half of one non-transferable share purchase warrant. Each whole warrant entitled the holder thereof to acquire one additional common share at an exercise price of \$0.80 per warrant, exercisable for a period of twenty-four months from the date of issuance. The aggregate gross proceeds raised pursuant to the first and second tranche of the non-brokered private placement was \$2,049,999.80 through the issuance of 3,416,666 units.

On April 9, 2021, the Company announced that it closed a non-brokered private placement of 1,735,199 units at a price of \$2.50 per unit for gross proceeds of \$4,337,998. Each unit was comprised of one common share and one-half of one whole common share purchase warrant. Each whole warrant entitled the holder thereof to acquire one common share at a price of \$3.00 per common share until April 8, 2023, provided however that if, at any time after August 9, 2021, the closing price of the Company's common shares on the TSXV (or such other stock exchange on which the common shares may be traded from time to time) is at or above CDN\$4.00 per share for a period of ten consecutive trading days (the "**Triggering Event**"), then the Company may, within one hundred days of the Triggering Event, accelerate the expiry date of the warrants by giving notice thereof to the holders of the warrants, by way of news release, and in such case the warrants will expire on the first day that is thirty calendar days after the date on which such notice is given by the Company announcing the Triggering Event. The warrants are subject to the terms and conditions of a warrant indenture dated April 8, 2021, between the Company and Capital Transfer Agency, ULC as agent for the warrants.

On January 4, 2022, the Company announced that it had closed a bought-deal prospectus offering (the "**Prospectus Offering**") for gross proceeds of \$23,005,060, and a concurrent non-brokered private placement (the "**Concurrent Private Placement**") for aggregate gross proceeds of \$10,009,022. Pursuant to the Prospectus Offering, the Company issued a total of 4,424,050 common shares at a price of \$5.20 per common share (the "**Issue Price**"), and pursuant to the Concurrent Private Placement, the Company issued a total of 1,924,812 common shares at the Issue Price.



## Subsequent Events

On April 5, 2023, the Company announced that it had filed patent applications for ZenGUARD™ in 47 countries including the United States, Europe and India.

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 April 25, 2023, the Company announced that it had agreed to sell the Albany Graphite Project to AGC. Pursuant to the terms of the agreement, the Company intends to transfer 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 is subject to standard closing conditions such as receipt of all required regulatory and third-party approvals (including the approval of the TSXV). The Company also 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. The Company also announced a non-brokered private placement financing, through the issuance of subscription receipts of AGC at a price of \$1.00 per subscription receipt. 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 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 Constance Lake First Nation; (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 financing and any listing on a recognized stock exchange is subject to the receipt of all applicable corporate and regulatory approvals.

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 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.

On May 23, 2023, the Company announced that it completed the transfer of the Albany Graphite Project to AGC in consideration for the issuance by AGC to the Company of 59,999,900 common shares of AGC.

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 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.

On June 1, 2023, the Company announced the appointment of Ms. Lisa Sim to the Board as an independent director. The Company further announced that Mr. Frank Klees resigned from the Board.

### **Significant Acquisitions**

There were no significant acquisitions completed by the Company during its most recently completed financial year for which disclosure would be required under Part 8 of National Instrument 51-102.

## **DESCRIPTION OF THE BUSINESS**

### **General**

#### Summary

In 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 significant Board changes and accordingly the assembly of an interdisciplinary team to augment key management personnel with expertise in business, marketing, and government relations.

Since May 2018, the Company has successfully raised over \$40 million, and the Company has received more than \$1 million in government grants to accelerate its research and collaborations to build momentum towards commercial and industrial-scale production of its products. In January 2020, the Company changed its name and began focusing its research on three priorities: (i) advanced materials, (ii) clean technology, and (iii) green energy. The name change reflects the Company's decision to refocus its development plans from the Albany Graphite Project and towards graphene nanomaterial intellectual property and product opportunities that may benefit from vertical integration. 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 product. Subsequently, the COVID-19 pandemic halted research at the Company's collaborators' laboratories. The Company rapidly pivoted to focus its resources to develop graphene-based solutions for the fight against COVID-19 and developed a patent-pending GO/silver coating that has shown to effectively inactivate over 99% of the SARS-CoV-2 virus. Additional testing and research have indicated that the Company's compound is also effective against bacteria and fungi. This research and development have resulted in the filing of four patent applications, a patent granted for the Company's ZenGUARD™ technology, the filing of patent applications in 47 countries (see "*Intangible Properties*" below), and the supply agreements with EkoMed and VMedCare, among other achievements described in more detail under "*General Development of the Business*" above.

To meet rapidly growing immediate demand for its proprietary antimicrobial compound, the Company began sourcing GO from third parties and is also testing third party graphite as a potential precursor material to produce graphene-based nanomaterials. Consequently, the Company's continued existence is no longer dependent upon the discovery of economically recoverable ore reserves, the ability of the Company to obtain the necessary financing to explore and develop potential ore reserves, or by way of entering into joint venture arrangements, future profitable production, or alternatively, upon the Company's ability to dispose of its interests on an advantageous basis.

Currently the principal markets targeted by the Company are PPE equipment manufacturers (and HVAC system manufacturers and suppliers (for the use of antimicrobial coated filters, pre and post-filters, high-efficiency particulate air (HEPA), etc.).

The Company is continuing to identify new markets and uses for its graphene-based antimicrobial coating.

The Company is working directly with PPE equipment and HVAC filter manufacturers and intends to ultimately supply the antimicrobial coating product directly to the manufacturers for use in their respective production lines, or as pre-coated materials/products that will be supplied to manufacturers (e.g., coated polypropylene (PP) or polyethylene terephthalate (PET) spunbound nonwoven media to be used in the construction of a surgical mask, coated nitrile gloves or pre-coated HVAC filtration media). The Company is also currently discussing with other parties interested in representing the Company and/or distributing its products in other global markets (Europe, India, Australasia, etc.). To date, most of the business opportunities that have been developed have been pursuant to inbound inquiries; however, once the production line to produce the antimicrobial coatings is operational, the Company intends to initiate an outbound marketing program.

#### Specialized Skill and Knowledge

The Company's research and development, and application/product development work involves Highly Qualified Personnel (PhD researchers, scientists, and engineers) and the Company has a highly skilled management team in place. The Company intends to add to its team and to hire and train additional staff as the Company's business transitions from research and product development to production, to work in the GO and antimicrobial coating production facilities, as may be required.

The Company believes that it has adequate personnel with the specialized skills and knowledge to successfully carry out the Company's business and operations. See "*Risk Factors – Qualified Employees*" for a discussion of the risks of losing such specialized skills and knowledge.

#### Competitive Conditions

The Company seeks to compete with other graphene and manufacturing companies, in highly competitive markets. The Company plans to provide functionalized graphene products to businesses, institutions, and governments within North America and internationally. This is a rapidly growing industry which has been accelerated during the COVID-19 pandemic. The Company's competitive position is based on its increasing scientific knowledge and know-how, its intellectual property, possession of in-house laboratories, extension of in-house science via university partners, the growing productive capacity to serve large customers, and the optionality of future vertical integration represented by the Albany Graphite Project. The Company's management is not aware of any companies similarly positioned to serve like markets as the Company, although given the rapid progression of the graphene industry, the Company may face significant competition in the future (See "*Risk Factors – Industry Competition*").

### New Products

The Company has publicly announced the introduction 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. Furthermore, as detailed under the heading “*Three Year History*” above, the Company is undertaking multiple research and development initiatives, leveraging the Company’s graphene nanotechnology, such as an icephobic coating, fire-retardant additive, and battery technology among others.

### Components

The main components to produce the Company’s antimicrobial compound are readily available and the Company has taken steps to secure GO from a third party in order to meet demand while the Company sets up its GO production facility, with the intention of using materials from the Albany Graphite Project; however, other graphite materials would be suitable as well.

### Intangible Properties

The Company holds intangible property in various forms such as trademarks, pending patent applications, trade secrets and know-how, mining claims (held by AGC), laboratory reports, licensing agreements, scientific agreements, and customer lists. Specifically, the Company holds three active patent applications under the Patent Cooperation Treaty in the Company’s name, for (i) graphene-silver nanocomposite uses as an antimicrobial coating agent, (ii) graphene-silver nanocomposite compositions and uses for treatment of infectious diseases, and (iii) the proprietary process for manufacturing ZenGUARD™ nanotechnology at industrial scale.

Additionally, the Company has an exclusive license to make, have made, use, lease, sell, have sold, export, import, or otherwise distribute the subject matter of another provisional patent application relating to the processes for the preparation of expanded graphite and exfoliated GO. Management anticipates that amongst the existing intangible properties the pending patent applications have the most potential value for the Company. (See “*Risk Factors – Unpredictable Sales Cycles*”).

### Cycles

The sales cycle for graphene-based 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 current coronavirus (COVID-19) pandemic could materially change in the event the pandemic ends or decreases in severity. (See “*Risk Factors – Intellectual Property*”).

### Economic Dependence

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.

Pursuant to the EkoMed Agreement, (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.

Pursuant to the VMedCare Agreement, the Company will 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 Viva Healthcare Packaging (Canada) Ltd. for the manufacture of approximately 6,000,000 masks.

#### Environmental Protection

The Company is seeking to develop environmentally friendly processes and products and is currently working with its partners to create biodegradable/recyclable/reusable products that have a low carbon footprint. In addition, the Company is currently working with Prof. Aicheng Chen and his team at the University of Guelph to develop a scalable, low-cost, low-energy, and environmentally friendly process (chemically and electrochemically) to produce high-quality, few-layer GO at the Company's Guelph facility.

On September 28, 2020, the University of Guelph filed a provisional patent application directed to an electrochemical exfoliation process to produce GO from Albany Pure™ graphite, to which the Company holds an exclusive license.

AGC's current and future operations with respect to the Albany Graphite Project, including development activities carried out by AGC on its properties or areas in which it has an interest, are subject to laws and regulations governing exploration, development, tenure, productions, taxes, labour standards, occupational health, waste disposal, protection, and remediation of the environment, mine safety, toxic substances, and other matters. Environmental protection requirements did not have a material effect on the capital expenditures, earnings, or competitive position of the Company during its financial year ended March 31, 2023, and are not expected to have a material effect during the Company's financial year ending March 31, 2024.

#### Employees

As of the date of this AIF, the Company has 27 staff consisting of 25 employees and 2 consultants. Management expects headcount to grow as production volumes, scientific capacity and sales staff grow during the current and upcoming fiscal years.

#### Foreign Operations

The Company has no meaningful foreign operations.

#### **Other**

The Company and its subsidiaries have not been subject to bankruptcies, receiverships, or similar proceedings, nor have there been any material reorganizations of the Company or any of its subsidiaries during the three most recently completed financial years or completed during or proposed for the current financial year. The Company does not have an investment policy, or lending and investment restrictions in place.

#### **RISK FACTORS**

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.

Subsequent to year end, 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 financial year March 31, 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 COVID-19 pandemic has severely restricted the level of economic activity around the world and is continuing to have an unprecedented effect. The global spread of COVID-19 has been and continues to be a complex and evolving situation. The Company closely monitors the changing global environment to enable immediate actions to be taken to ensure customer order fulfillment will be achieved with the engagement of contracted manufacturers both in Canada and abroad.

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 March 31, 2023, the Company had a cash balance of \$10,357,317 (2022 - \$26,675,000) to settle current liabilities of \$2,419,818 (2022 - \$2,304,834). 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 March 31, 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. Subsequent to year end, 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.

## **DIVIDENDS AND DISTRIBUTIONS**

The Company relies primarily on equity financing to fund its working capital needs. The Company has neither declared nor paid any dividends on its common shares. The Company intends to retain its earnings, if any, to finance growth and expand its operation and does not anticipate paying any dividends on its common shares in the foreseeable future. Any decisions to pay dividends on the common shares will be made by the Board on the basis of its earnings, financial requirements, and other conditions.

## **DESCRIPTION OF CAPITAL STRUCTURE**

### **Common Shares**

The authorized share capital of the Company consists of an unlimited number of common shares. As at March 31, 2023, 99,533,982 common shares were issued and outstanding, and as of the date hereof there are 99,586,981 common shares issued and outstanding.

Each common share entitles the holder thereof to receive notice of any meetings of the shareholders of the Company, to attend, and to cast one vote per common share at all such meetings. Holders of common shares do not have cumulative voting rights with respect to the election of directors. Accordingly, holders of a majority of the common shares entitled to vote in any election of directors may elect all of the directors standing for election. Holders of common shares are entitled to receive on a pro-rata basis such dividends if any, as and when declared by the Board at its discretion from funds legally available therefore and, upon the liquidation, dissolution, or winding up of the Company, are entitled to receive on a pro-rata basis the net assets of the Company for payment of debts and liabilities. The common shares do not carry any pre-emptive, subscription, redemption, retraction, or conversion rights, nor do they contain any sinking or purchase fund provisions.

### **Stock Options**

On September 29, 2022, shareholders of the Company approved and adopted an Omnibus Long-Term Incentive Plan ("**LTIP**") at the Company's annual and special shareholder meeting. The LTIP was accepted for filing by the TSXV on October 17, 2022.

Any existing options that were granted prior to the effective date of the LTIP pursuant to the Company's previous stock option plan (the "**Legacy Stock Option Plan**"), will continue in accordance with their terms. Upon the effective date of the LTIP, however, options shall no longer be granted pursuant to the Legacy Stock Option Plan and shall only be granted pursuant to the LTIP.

The maximum number of common shares that may be: (i) issued to insiders of the Company within any one-year period; or (ii) issuable to insiders of the Company at any time, in each case, under the LTIP alone, or when combined with all of the Company's other security-based compensation arrangements, including the Legacy Stock Option Plan, cannot exceed 10% of the aggregate number of common shares issued and outstanding from time to time determined on a non-diluted basis. As at March 31, 2023, a total of 8,673,334 stock options were outstanding with a weighted average exercise price of \$2.03.



During the financial year ended March 31, 2023, the Company granted an aggregate of 600,000 options to certain officers, directors, employees, and consultants of the Company.

On April 13, 2021, the Company granted 50,000 options exercisable at a price of \$1.76 per common share for a period of five (5) years from the date of issuance to a consultant of the Company and 50,000 options exercisable at a price of \$1.76 per common share for a period of two (2) years from the date of issuance to a consultant of the Company.

On June 30, 2021, the Company granted 150,000 options exercisable at a price of \$3.50 per common share for a period of three (3) years from the date of issuance to an advisory board member of the Company.

On July 23, 2021, the Company granted 25,000 options exercisable at a price of \$3.10 per Common Share for a period of three (3) years from the date of issuance to an employee of the Company.

On September 3, 2021, the Company granted 100,000 options exercisable at a price of \$3.69 per common share for a period of three (3) years from the date of issuance to a consultant and an employee of the Company.

On September 21, 2021, the Company granted 120,000 options exercisable at a price of \$4.08 per common share for a period of three (3) years from the date of issuance to an employee of the Company.

On October 13, 2021, the Company granted 100,000 options exercisable at a price of \$4.92 per common share for a period of three (3) years from the date of issuance to an employee of the Company.

On October 26, 2021, the Company granted 50,000 options exercisable at a price of \$4.77 per common share for a period of three (3) years from the date of issuance to an employee of the Company.

On November 1, 2021, the Company granted 50,000 options exercisable at a price of \$5.67 per common share for a period of five (5) years from the date of issuance to an employee of the Company and 50,000 options exercisable at a price of \$5.67 per common share for a period of three (3) years from the date of issuance to a consultant of the Company.

On December 15, 2021, the Company granted 25,000 options exercisable at a price of \$5.20 per Common Share for a period of five (5) years from the date of issuance to a consultant of the Company.

On December 29, 2021, the Company granted 100,000 options exercisable at a price of \$5.22 per common share for a period of three (3) years from the date of issuance to an advisory board member of the Company.

On January 14, 2022, the Company granted 200,000 options exercisable at a price of \$4.25 per common share for a period of three (3) years from the date of issuance to directors, officers and employees of the Company and 1,100,000 options exercisable at a price of \$4.25 per common share for a period of five (5) years from the date of issuance to directors, officers and employees the Company.

On January 17, 2022, the Company granted 20,000 options exercisable at a price of \$4.25 per common share for a period of three (3) years from the date of issuance to an employee of the Company.

On March 29, 2022, the Company granted 54,000 options exercisable at a price of \$3.88 per common share for a period of three (3) years from the date of issuance to an employee of the Company.

On May 13, 2022, the Company granted 200,000 options exercisable at a price of \$2.59 per common share for a period of three (3) years from the date of issuance to an officer of the Company.

On July 4, 2022, the Company granted 250,000 options exercisable at a price of \$2.44 per common share for a period of five (5) years from the date of issuance to a director of the Company.

On October 17, 2022, the Company granted 150,000 options exercisable at a price of \$1.93 per common share for a period of three (3) years from the date of issuance to directors, officers and employees of the Company.

On April 14, 2023, the Company granted 600,000 options exercisable at a price of \$2.12 per common share for periods of three (3) to five (5) years from the date of issuance to directors, officers and employees of the Company.

On June 1, 2023, the Company granted 250,000 options exercisable at a price of \$2.24 per common share for a period of five (5) years from the date of issuance to a director of the Company.

### Prior Sales

The following table summarizes details of all issuances of securities of the Company, other than Common Shares, in the year ended March 31, 2023, being the most recently completed financial year of the Company:

Issue Date	Type of Security	Issue Price	Number of Securities
May 13, 2022	Options	\$2.59	200,000
July 4, 2022	Options	\$2.44	250,000
October 17, 2022	Options	\$1.93	150,000

### MARKET FOR SECURITIES

#### Trading Price and Volume

##### Common Shares

The common shares are listed for trading on the TSXV under the trading symbol "ZEN". The following table sets out the high and low closing market prices and the volume traded of the common shares on the TSXV for each month since the beginning of the Company's financial year ended March 31, 2023:

2022	HIGH (\$)	LOW (\$)	VOLUME
April	3.90	3.03	1,819,037
May	3.30	2.27	1,465,376
June	2.84	2.25	1,176,031
July	3.05	2.44	866,072
August	2.97	2.36	636,823
September	2.63	2.23	714,992
October	2.38	1.80	1,248,600
November	2.22	1.99	667,534
December	2.63	2.00	912,759
2023	HIGH (\$)	LOW (\$)	VOLUME
January	2.12	1.90	574,338
February	2.29	1.88	979,103
March	2.24	2.00	779,249
April	2.18	2.01	590,840
May	2.27	1.89	879,544
June 1 to June 29	2.25	2.08	374,490

## ESCROWED SECURITIES

As of the date hereof, there are no securities of the Company subject to escrow provisions.

## DIRECTORS AND OFFICERS

### Name, Occupation, and Security Holdings

The following table sets forth all current directors and executive officers of the Company as at the date hereof, their principal occupations or employment, the period or periods of service, and the approximate number of voting securities of the Company beneficially owned, directly or indirectly, or over which control or direction is exercised as of the date hereof.

The Board currently consists of six (6) directors to be elected annually. The term of office of each director will be from the date of the meeting at which he or she is elected until the next annual meeting, or until his or her successor is elected or appointed.

<b>Name, Province and Country of Residence, Position</b>	<b>Director Since</b>	<b>Number of Common Shares Beneficially Owned<sup>(1)</sup></b>	<b>Principal Occupation During Past Five Years</b>
Greg Fenton St. James, Barbados  Chief Executive Officer and Director	July 11, 2018	2,581,825 common shares  1,800,000 options	Chief Strategy Officer (September 27, 2019, to December 7, 2020); Chief Executive Officer of the Company (December 8, 2020, to present), President at Fortem Partners International Limited (2016 to present), Corporate Director.
Dr. Francis Dubé Ontario, Canada  Executive Chairman and Director	May 11, 2018	821,887 common shares  1,600,000 options	Co-Chief Executive Officer (August 14, 2018, to April 1, 2019), Chief Executive Officer (April 2, 2019, to December 7, 2020), Executive Chairman of the Company (December 8, 2020, to present), Corporate Director, Optometrist
Brian Bosse Ontario, Canada  Chief Operations Officer and Director	May 11, 2018	295,704 common shares  1,125,000 options	Chief Financial Officer of the Company (September 14, 2018, to May 2018), Chief Executive Officer and Director at IC Capitalight Corp., Corporate Director
Eric Wallman <sup>(2)</sup> Manitoba, Canada  Director	May 11, 2018	171,755 common shares  625,000 options	Senior Vice-President, Finance and Administration at Bothwell Cheese, Board Member of the Western Dairy Council, Corporate Director
Lisa Sim <sup>(2)</sup> Ontario, Canada  Director	June 1, 2023	250,000 options	Partner at Miller Thomson LLP and member of their Executive Committee.
Ilse Treurnicht <sup>(2)</sup> Ontario, Canada  Director	July 5, 2022	275,000 options	Managing Partner of TwinRiver Capital, chair of the Public Policy Forum and director of the Equality Fund

<b>Name, Province and Country of Residence, Position</b>	<b>Director Since</b>	<b>Number of Common Shares Beneficially Owned<sup>(1)</sup></b>	<b>Principal Occupation During Past Five Years</b>
Peter C. Wood Ontario, Canada  VP, Special Projects	N/A	56,900 common shares  450,000 options	VP Exploration of the Company (2013 to June 21, 2018); Vice President of the Company (June 22 to September 13, 2018); President of the Company (September 14, 2018, to present); President and Geologist, Geodigital Mapping Systems Inc. (1991 to present)
Wendy Ford Ontario, Canada  Chief Financial Officer	N/A	10,000 common shares  275,000 options	Chief Financial Officer of AirBoss of America Corp (March 2014 to August 2016); VP Finance and Chief Financial Officer of Mancor Canada Inc. (October 2017 to May 2022).
Ryan Shacklock Ontario, Canada  VP, Strategy, Business Development & Investor Relations	N/A	178,200 common shares  300,000 options	VP of the Company since January 2021. Prior thereto, Mr. Shacklock held several positions at Nutrien Ltd. (formerly Potash Corporation of Saskatchewan Inc.)
Dr. Colin van der Kuur, British Columbia, Canada  VP, Science and Research	N/A	404,374 common shares  400,000 options	Head of Research (February 4 to December 7, 2020); VP, Science and Research (December 8, 2020, to present)

**Notes:**

- (1) The information as to voting securities beneficially owned, controlled, or directed, not being within the knowledge of the Company, has been obtained from the System for Electronic Disclosure by Insiders or furnished by the respective nominees individually. Based on this information, as at March 31, 2023, the directors and executive officers of the Company, as a group, beneficially owned, controlled or directed, directly or indirectly, 5,141,964 common shares, representing approximately 5.16% of the outstanding common shares.
- (2) Member of the Audit Committee.

**Cease Trade Orders, Bankruptcies, Penalties or Sanctions**

For the purposes of this section “Order” means:

- (a) a cease trade order;
- (b) an order similar to a cease trade order; or
- (c) an order that denied the relevant company access to any exemption under securities legislation;

that was in effect for more than 30 days.

No director or executive officer of the Company, within 10 years before the date of this AIF, has been a director, chief executive officer or chief financial officer of any company that was subject to an Order that was issued:

- (a) while the proposed director was acting in the capacity as director, chief executive officer or chief financial officer; or
- (b) after the proposed director ceased to be a director, chief executive officer or chief financial officer and which resulted from an event that occurred while that person was acting in the capacity as director, chief executive officer or chief financial officer.

No director or executive officer of the Company, or shareholders holding a sufficient number of securities to materially affect control of the Company has:

- (a) as at the date of the AIF, or within 10 years before the date of the AIF, been a director or executive officer of any company that, while the proposed director was acting in that capacity, or within a year of the proposed director ceasing to act in that capacity, became bankrupt, made a proposal under any legislation relating to bankruptcy or insolvency or was subject to or instituted any proceedings, arrangement or compromise with creditors or had a receiver, receiver manager or trustee appointed to hold its assets; or
- (b) within 10 years before the date of the AIF, become bankrupt, made a proposal under any legislation relating to bankruptcy or insolvency, or become subject to or instituted any proceedings, arrangement or compromise with creditors, or had a receiver, receiver manager or trustee appointed to hold the assets of such person.

No director or executive officer of the Company or a shareholder holding a sufficient number of securities to materially affect control of the company has been subject to:

- (a) any penalties or sanctions imposed by a court relating to securities legislation or by a securities regulatory authority or has entered into a settlement agreement with a securities regulatory authority; or
- (b) any other penalties or sanctions imposed by a court or regulatory body that would likely be considered important to a reasonable investor in making an investment decision.

## **PROMOTERS**

No person or company has been, within the two most recently completed financial years or during the current financial year, a promoter of the Company.

## **CONFLICTS OF INTEREST**

There are no known existing or potential conflicts of interest among the Company, or any of its subsidiaries, and the directors and officers of the Company as a result of their outside business interests except that certain of the directors and officers may serve as directors, officers, promoters and members of management of other companies and therefore it is possible that a conflict may arise between their duties as a director and officer of the Company and their duties as a director, officer, promoter or member of management of such other companies.

The directors and officers of the Company have been advised of the existence of laws governing accountability of directors and officers regarding corporate opportunity and requiring disclosures by directors of conflicts of interest, and the Company will rely upon such laws in respect of any directors' and officers' conflicts of interest or in respect of any breaches of duty by any of the directors or officers. All such conflicts shall be disclosed by such directors or officers and treated in accordance with the applicable laws of Ontario and the Company's constating documents.

## **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 past breaches of Mr. Eveleigh's fiduciary duties. Mr. Eveleigh has defended the claim and the Company submits that it continues to defend the action and maintains that the allegations as set out in the claim are frivolous and without merit.

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. Mandatory mediation is the next step before going 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, and, based on discussions with the Company's litigation counsel, 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.

## **INTERESTS OF MANAGEMENT IN MATERIAL TRANSACTIONS**

To the knowledge of management of the Company, no director or executive officer of the Company, person or company that beneficially owns, controls or directs, directly or indirectly, more than 10% of the common shares, or any associate or affiliate of any such persons, has or had any material interest, direct or indirect, in any transaction within the Company's three most recently completed financial years which has materially affected or will materially affect the Company or any of its subsidiaries other than as set out herein.

## **TRANSFER AGENT AND REGISTRAR**

Effective as of November 22, 2021, the registrar and transfer agent of the Company is TSX Trust Company, having an address of 100 Adelaide Street West, Suite 301, Toronto, Ontario M5H 1S3.

## MATERIAL CONTRACTS

Except as disclosed above with respect to the EkoMed Agreement, the VMedCare Agreement and the Southmedic Agreement under the headings “Description of the Business – Economic Dependence” and “Three Year History – ZenGUARD™ Antimicrobial Compound”, and for contracts entered into in the ordinary course of business, the Company has not entered into any material contracts during the most recently completed financial year or which are still in force and effect, and which may reasonably be regarded as presently material.

## EXPERTS AND INTERESTS OF EXPERTS

The auditor of the Company, BDO Canada LLP is independent within the meaning of the rules of Professional conduct of the Chartered Professional Accountants of British Columbia and within the meaning of the Securities Acts administered by the Securities and Exchange Commission and the Public Company Accounting Oversight Board.

## AUDIT COMMITTEE INFORMATION

### The Audit Committee’s Charter

The directors of the Company have adopted a charter (the “**Charter**”) for the audit committee (the “**Audit Committee**”), which sets out the Audit Committee’s mandate, organization, powers and responsibilities. The full text of the Charter is attached hereto as Appendix “A” to this AIF.

### Composition of the Audit Committee

The members of the Audit Committee are Eric Wallman CPA, CA (Chair), Ilse Treurnicht and Lisa Sim, each of whom are independent (as defined in National Instrument 52-110 — Audit Committees (“**NI 52-110**”) adopted by the Canadian Securities Administrators), and all members are financially literate (as defined in NI 52-110).

Name of Member	Independent <sup>(1)</sup>	Financially Literate <sup>(2)</sup>
Eric Wallman CPA, CA (Chair)	Yes	Yes
Ilse Treurnicht	Yes	Yes
Lisa Sim	No	Yes

#### Notes:

- (1) To be considered independent, a member of the Audit Committee must not have any direct or indirect “material relationship” with the Company. A “material relationship” is a relationship which could, in the view of the board of directors of the Company, be reasonably expected to interfere with the exercise of a member’s independent judgment.
- (2) To be considered financially literate, a member of the Committee must have the ability to read and understand a set of financial statements that present a breadth and level of complexity of accounting issues that are generally comparable to the breadth and complexity of the issues that can reasonably be expected to be raised by the Company’s financial statements.

### Relevant Education and Experience

Mr. Wallman is a graduate of the University of Manitoba in 1983 and obtained a full CA designation in 1986. He has held senior accounting and finance positions in the industry since 1991 and has been an active investor in the junior mining market since 1992. Currently, Mr. Wallman is the Senior Vice-President, Finance and Administration with Bothwell Cheese, which is the largest independently owned cheese manufacturer in Canada. His role includes strategic planning for Bothwell Cheese and two related companies.

Ms. Treurnicht holds a DPhil in chemistry from Oxford University in the United Kingdom, which she attended as a Rhodes Scholar. Ms. Treurnicht is the Managing Partner of TwinRiver Capital, an impact investment firm focused on advancing positive environmental and social impact while delivering strong financial returns. Ms. Treurnicht also brings several years of senior Board-level experience to the Company, currently serving as Chair of the Public Policy Forum, and a director of the Equality Fund.

Ms. Sim is a partner with Miller Thomson LLP and a member of the firm's Executive Committee. Ms. Sim practises intellectual property law with a focus on protecting, commercializing, and managing the intellectual assets of her clients. She is a registered patent agent in Canada and the United States, as well as a registered Canadian trademark agent. Prior to pursuing a career in law, Ms. Sim completed graduate work in microbiology. She then worked for several years as IP counsel at other leading intellectual property law firms before joining Miller Thomson LLP.

### Reliance on Certain Exemptions

Except as disclosed below, at no time since the commencement of the Company's most recently completed financial year has the Company relied on any of the exemptions contained in the following sections of NI 52-110: section 2.4 (De Minimis Non-audit Services), section 3.2 (Initial Public Offerings), section 3.4 (Events Outside Control of Member), section 3.5 (Death, Disability or Resignation of Audit Committee Member) or an exemption from NI 52-110, in whole or in part, granted under Part 8 (Exemptions) of NI 52-110.

As a result of the resignation of Mr. Frank Klees as a director and member of the Audit Committee, the Company is currently relying on the exemption set out in section 3.5 (Death, Disability or Resignation of Audit Committee Member) of NI 52-110 with the appointment of Ms. Lisa Sim as his replacement. The Company intends to appoint a new independent Audit Committee member to replace Ms. Sim on the Audit Committee.

### Audit Committee Oversight

At no time during the last financial year have any recommendations by the Audit Committee respecting the appointment and/or compensation of the external auditors of the Company not been adopted by the Board pre-approval policies and procedures.

The Audit Committee has adopted specific policies and procedures for the engagement of non-audit services as described in its Charter.

### External Auditor Services Fees (By Category)

The following table discloses the fees billed to the Company by its external auditor during the last two completed financial years:

Financial Year Ending	Audit Fees <sup>(1)</sup>	Audit-Related Fees <sup>(2)</sup>	Tax Fees <sup>(3)</sup>	All Other Fees <sup>(4)</sup>
March 31, 2023	\$267,500	\$Nil	\$9,500	\$Nil
March 31, 2022	\$195,000	\$Nil	\$Nil	\$Nil

**Notes:**

- (1) The aggregate fees billed for professional services rendered by the auditor for the audit of the Company's annual financial statements.
- (2) The aggregate fees billed for assurance and related services that are reasonably related to the performance of the audit or review of the Company's financial statements and are not disclosed in the "Audit Fees" column.
- (3) The aggregate fees billed for tax compliance, tax advice, and tax planning services.
- (4) Represents fees billed by the auditor for all other services.



## **ADDITIONAL INFORMATION**

Additional information relating to the Company may be found through a database search at SEDAR at [www.sedar.com](http://www.sedar.com). Additional information on the Company, including directors' and officers' remuneration and indebtedness, principal holders of the Company's securities, and securities authorized for issuance under equity compensation plans, is contained in the Company's management information circular dated August 25, 2022, which may be found on SEDAR.

Additional financial information regarding the Company is provided in the Company's audited annual financial statements and management's discussion and analysis for the year ended March 31, 2023, which may be found on SEDAR.

## **APPENDIX A AUDIT COMMITTEE CHARTER**

### **Mandate**

The Audit Committee (“**Committee**”) is a committee of the Board of Directors (the “**Board**”). Its primary function shall be to assist the Board in fulfilling its oversight responsibilities with respect to financial reporting, and disclosure requirements, the overall maintenance of the systems of internal controls that management has established and the overall responsibility for Zentek Ltd.’s (the “**Company**”) external and internal audit processes.

The Committee shall have the power to conduct or authorize investigations into any matter within the scope of this Charter. It may request any officer or employee of the Company, its external legal counsel or external auditor to attend a meeting of the Committee or to meet with any member(s) of the Committee.

The Committee shall be accountable to the Board. In the course of fulfilling its specific responsibilities hereunder, the Committee shall maintain an open communication between the Company’s outside auditor and the Board.

The responsibilities of a member of the Committee shall be in addition to such member’s duties as a member of the Board.

The Committee has the duty to determine whether the Company’s financial disclosures are complete, accurate, in accordance with international financial reporting standards and fairly present the financial position and risks of the organization. The Committee should, where it deems appropriate, resolve disagreements, if any, between management and the external auditor, and review compliance with laws and regulations and the Company’s own policies.

The Committee will provide the Board with such recommendations and reports with respect to the financial disclosures of the Company as it deems advisable.

The Committee shall have the authority to: (i) engage independent counsel and other advisors as it determines necessary to carry out its duties; (ii) set and pay the compensation for advisors employed by the Committee; and (iii) communicate directly with the internal and external auditors.

### **Membership and Composition**

The Committee shall consist of at least three Directors who shall serve on behalf of the Board all of whom are independent and financially literate.

The members shall be appointed annually by the Board and shall meet the independence, financial literacy, and experience requirements of the TSXV, including National Instrument 52-110 — *Audit Committees*, and other regulatory agencies as required.

An “independent” director is a director who has no direct or indirect material relationship with the Company. A “material relationship” is a relationship which, in the view of the Board, could be reasonably expected to interfere with the exercise of the director’s independent judgement, or a relationship deemed to be a material relationship pursuant to Sections 1.4 and 1.5 of National Instrument 52-110 — *Audit Committees*. A “financially literate” director is a director who has the ability to read and understand a set of financial statements that present a breadth and level of complexity of accounting issues that are generally comparable to the breadth and complexity of the accounting issues that can reasonably be expected to be raised in the Company’s financial statements.

Each member of the Committee shall sit at the appointment of the Board, and in any event, only so long as he or she shall be independent.

A minimum of two and at least 50% of the members of the Committee present, either in person or by telephone, shall constitute a quorum. If within one hour of the time appointed for a meeting of the Committee, a quorum is not present, the meeting shall stand adjourned to the same hour on the next business day following the date of such meeting at the same place. If at the adjourned meeting a quorum as hereinbefore specified is not present within one hour of the time appointed for such adjourned meeting, such meeting shall stand adjourned to the same hour on the second business day following the date of such meeting at the same place. If at the second adjourned meeting a quorum as hereinbefore specified is not present, the quorum for the adjourned meeting shall consist of the members then present.

If and whenever a vacancy shall exist, the remaining members of the Committee may exercise all of their powers and responsibilities so long as a quorum remains in office.

The Board will appoint one Member to act as the Chairman of the Committee. In his or her absence, the Committee may appoint another person provided a quorum is present. The Chairman will appoint a Secretary of the meeting, who need not be a member of the committee and who will maintain the minutes of the meeting.

### **Meetings**

At the request of the external auditor, the Chief Executive Officer or the Chief Financial Officer of the Company or any member of the Committee, the Chairman will convene a meeting of the Committee. In advance of every meeting of the Committee, the Chairman, with the assistance of the Chief Financial Officer, will ensure that the agenda and meeting materials are distributed in a timely manner and no less than five (5) business days before the meeting.

The Committee shall meet no less than four times per year or more frequently if circumstances or obligations require.

The time and place at which meetings of the Committee shall be held, and procedures at such meetings, shall be determined from time to time by the Committee. A meeting of the Committee may be called by letter, telephone, facsimile, email or other communication equipment by giving at least 48 hours' notice, provided that no notice of a meeting shall be necessary if all of the members are present either in person or by means of conference telephone, or if those absent have waived notice or otherwise signified their consent to the holding of such meeting.

Any member of the Committee may participate in the meeting of the Committee by means of conference telephone or other communication equipment, and the member participating in a meeting pursuant to this paragraph shall be deemed, for purposes hereof, to be present in person at the meeting.

The Committee shall keep minutes of its meetings which shall be submitted to the Board. The Committee may from time to time appoint any person, who need not be a member, to act as a secretary at any meeting.

The Committee may invite such officers, directors and employees of the Company and its subsidiaries as the Committee may see fit, from time to time, to attend meetings of the Committee.

Any matters to be determined by the Committee shall be decided by a majority of votes cast at a meeting of the Committee called for such purpose. Actions of the Committee may be taken by an instrument or instruments in writing signed by all of the members of the Committee, and such actions shall be effective as though they had been decided by a majority of votes cast at a meeting of the Committee called for such purpose. The Committee shall report its determinations to the Board at the next scheduled meeting of the Board, or earlier as the Committee deems necessary. All decisions or recommendations of the Committee shall require the approval of the Board prior to implementation, other than those relating to non-audit services and annual audit fees, which do not require the approval of the Board.

## Duties and Responsibilities

The duties and responsibilities of the Committee shall be as follows:

- A. Financial Reporting, and Disclosure:
- i. Review and discuss with management and the external auditor at the completion of the annual examination:
    - (a) the Company's audited financial statements and related notes;
    - (b) the external auditor's audit of the financial statements and their report thereon;
    - (c) any significant changes required in the external auditor's audit plan;
    - (d) any serious difficulties or disputes with management encountered during the course of the audit; and
    - (e) other matters related to the conduct of the audit, which are to be communicated to the Committee under generally accepted auditing standards.
  - ii. Review and discuss with management and the external auditor at the completion of any review engagement or other examination, the Company's quarterly financial statements.
  - iii. Review and discuss with management the annual reports, the quarterly reports, the Management Discussion and Analysis, Annual Information Form, prospectus, and other disclosures including press releases and, if thought advisable, recommend the acceptance of such documents to the Board for approval.
  - iv. Review and discuss with management any guidance being, provided to shareholders on the expected future results and financial performance of the Company and provide their recommendations on such documents to the Board.
  - v. Inquire of the auditors about the quality and acceptability of the Company's accounting principles, including the clarity of financial disclosure and the degree of conservatism or aggressiveness of the accounting policies and estimates.
  - vi. Meet independently with the external auditor and management in separate executive sessions, as necessary or appropriate.
  - vii. Ensure that management has the proper systems in place so that the Company's financial statements, financial reports and other financial information satisfy legal and regulatory requirements. Based upon discussions with the external auditor and the financial statement review, if it deems appropriate, recommend to the Board the filing of the audited annual and unaudited quarterly financial statements.
  - viii. Oversee and enforce Company's public disclosure practices.
  - ix. Confirm and be satisfied that adequate procedures are in place for the review of the Company's public disclosure of financial information extracted or derived from the financial statements and periodically assess the adequacy of those procedures.

- x. The Committee will, as applicable, establish procedures for:
  - (a) the receipt, retention and treatment of complaints received by the Company regarding accounting, internal accounting controls, or auditing matters; and
  - (b) the confidential, anonymous submission by employees of the Company of concerns regarding questionable accounting or auditing matters.
  
- B. External Auditor:
  - i. Recommend to the Board the external auditor to be nominated and review the performance of the auditor, including the lead partner of the external auditor.
  - ii. Recommend to the Board the compensation of the external auditor.
  - iii. Oversee the work of external auditors engaged for the purpose of preparing or issuing an auditor's report or performing other audit, review or attest services for the Company, including the resolution of disagreements between management and the external auditor regarding financial reporting.
  - iv. Pre-approve all non-audit services to be provided by the external auditor.
  - v. Consider, in consultation with the external auditor, the audit scope and plan of the external auditor.
  - vi. Confirm with the external auditor and receive written confirmation at least once per year as to disclosure of any investigations or government enquiries, reviews or investigations of the outside auditor.
  - vii. Take reasonable steps to confirm the independence of the external auditor, which shall include:
    - (a) ensuring receipt from the external auditor of a formal written statement delineating all relationships between the external auditor and the Company, consistent with generally accepting auditing practices,
    - (b) considering and discussing with the external auditor any disclosed relationships or services, including non audit services, that may impact the objectivity and independence of the external auditor, and
    - (c) approve in advance any non audit related services provided by the auditor to the Company with a view to ensuring, independence of the auditor, and in accordance with any applicable regulatory requirements, including the requirements of the TSXV with respect to approval of non audit related serviced performed by the auditor.
  
- C. Internal Controls and Audit:
  - i. Review and assess the adequacy and effectiveness of the Company's systems of internal and management information systems through discussion with management and the external auditor to ensure that the Company maintains appropriate systems, is able to assess the pertinent risks of the Company and that the risk of a material misstatement in the financial disclosures can be detected.

- ii. Assess the requirement for the appointment of an internal auditor for the Company.
- iii. Inquire of management and the external auditor about the systems of internal controls that management and the Board have established and the effectiveness of those systems. In addition, inquire of management and the external auditor about significant financial risks or exposures and the steps management has taken to minimize such risks to the Company.
- iv. Establish, periodically review, and approve the Company's hiring policies regarding partners, employees and former partners and employees of the present and former External Auditor of the Company, as applicable.

### **Oversight Function**

While the Committee has the responsibilities and powers set forth in this Charter, it is not the duty of the Committee to plan or conduct audits or to determine that the Company's financial statements are complete and accurate or are in accordance with IFRS and applicable rules and regulations. These are the responsibilities of management and the external auditors. The Committee, the Chair, and any members identified as having accounting or related financial expertise, are members of the Board appointed to the Committee to provide broad oversight of the financial, risk and control related activities of the Company, and are specifically not accountable or responsible for the day-to-day operation or performance of such activities.

Although the designation of a member as having accounting or related financial expertise for disclosure purposes is based on that individual's education and experience, which that individual will bring to bear in carrying out his or her duties on the Committee, such designation does not impose on such person any duties, obligations or liability that are greater than the duties, obligations and liability imposed on such person as a member of the Committee and the Board in the absence of such designation. Rather, the role of a Committee member who is identified as having accounting or related financial expertise, like the role of all members, is to oversee the process, not to certify or guarantee the internal or external audit of the Company's financial information or public disclosure.

### **Independent Advisors**

The Committee shall have the authority to retain such independent advisors as it may deem necessary or advisable for its purposes and communicate directly with such advisors. The expenses related to such engagements shall be determined by the Committee and funded by the Company.

### **Charter Review**

The Committee will annually review and reassess the adequacy of this policy and submit any recommended changes to the Board for approval.

### **Adoption**

This Policy was adopted by the Board on June 28, 2023.