Management's Discussion and Analysis

For the year ended
March 31, 2021

Dated: July 26, 2021

(Expressed in Canadian Dollars)

Introduction

This Management Discussion and Analysis ("MD&A") is dated July 26, 2021 and is in respect of the year ended March 31, 2021. The following discussion of the financial condition and results of operations of ZEN Graphene Solutions Ltd. ("ZEN" or the "Company" or the "Corporation") constitutes management's review of the factors that affected the Corporation's financial and operating performance for the year ended March 31, 2021.

This discussion should be read in conjunction with the Corporation's audited financial statements and corresponding notes to the financial statements for the year ended March 31, 2021. The Corporation's audited financial statements have been prepared in accordance with International Financial Reporting Standards ("IFRS"). Unless otherwise stated, all amounts discussed herein are denominated in Canadian dollars which is the Corporation's functional and reporting currency.

Additional information relating to the Corporation can be found under the Corporation's profile on SEDAR at www.sedar.com.

Forward Looking Statements

This MD&A of the Corporation contains certain forward-looking information and forward-looking statements, as defined in applicable securities laws (collectively referred to herein as "forward-looking statements"). These statements relate to future events or the Corporation's future performance. All statements other than statements of historical fact are forward-looking statements. Often, but not always, forward-looking statements can be identified by the use of words such as "plans", "expects", "is expected", "budget", "scheduled", "estimates", "continues", "forecasts", "projects", "predicts", "intends", "anticipates" or "believes", or variations of, or the negatives of, such words and phrases or state that certain actions, events or results "may", "could", "would", "should", "might" or "will" be taken, occur or be achieved. Forward- looking statements involve known and unknown risks, uncertainties and other factors, which may cause actual results to differ materially from those anticipated, expressed or implied in such forward-looking statements.

Factors that could affect these statements include, without limitation, availability of financing and personnel, fluctuations in graphene prices, future deposit development activities, general business and economic conditions, social and political stability, security of title, timing and receipt of permits and licenses, the impact of changes in future legislation and regulations, changes in mining or environmental regulations, competition and currency fluctuations. The forward-looking statements in this MD&A speak only as of the date of this MD&A or as of the date specified in such statement.

Shareholders are cautioned not to place undue reliance on forward-looking information. The Corporation undertakes no obligation to update publicly or otherwise revise any forward-looking information whether as a result of new information, future events or other such factors which affect this information, except as required by law.

These factors and other risks and uncertainties are detailed in the Corporation's reports and disclosure documents filed by the Corporation from time-to-time with Canadian securities regulatory authorities.

Company Overview

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

Since then, the Company has successfully raised over $13 million and received nearly $4 million in government grants to accelerate its research and collaborations to build momentum towards commercial graphene production and mine development. In January 2019, the Company changed its name from Zenyatta Ventures Ltd. to ZEN Graphene Solutions Ltd. to reflect the new direction of the company. The company began focusing its research on three priorities: (i) advanced materials, (ii) clean technology, and (iii) green energy. In March of 2020, ZEN opened a research facility in Guelph, Ontario, to support its research and development initiatives and scale-up the production of graphene-related products. Subsequently, the COVID-19 pandemic halted research at the labs of ZEN's collaborators. In response, the Company rapidly pivoted to focus its resources to develop graphene-based solutions for the fight against COVID-19 and developed a patent-pending graphene oxide/silver coating that effectively inactivates over 99% of the SARS-CoV-2 virus. Follow up testing has indicated that the Company's compound is also effective against bacteria, fungi including thirteen bacteria with antimicrobial-resistance (AMR), as well as multidrug-resistant variants like methicillin-resistant staphylococcus aureus (MRSA). This research and development has resulted in the filing of three provisional patents and two commercial agreements and further research into the use of the graphene oxide/silver compound as a potential pharmaceutical.

To meet rapidly growing immediate demand for its patent-pending antimicrobial compound, the Company began sourcing graphene oxide from third parties and is currently testing third party graphite as a potential precursor material to produce graphene-based nanomaterials.

ZEN is presently in discussion with various PPE manufacturers and HVAC filter material companies to include its patent-pending antimicrobial coating in their products. The Corporation is also working with a number of research institutions developing processes to synthesize graphene, graphene oxide and graphene quantum dots along with new applications for graphene. Potential markets for graphene 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 and military applications to name a few.

Applications for graphene and its derivatives are experiencing significant growth due to their unique chemical, electrical and thermal properties. It is 200 times stronger than steel, bends and stretches up to 120% of its original size, has 10 times the conductivity of copper, has 1000 times the capacity of copper, is impermeable to hydrogen and can improve the speed and efficiency of computer chips. Results from preliminary testwork indicate the addition of graphene has the potential to create a much stronger concrete with a faster curing time at a cost advantage. Also, the addition of graphene in concrete has the potential to reduce the amount of cement needed which in turn reduces CO_2 emissions. ZEN continues to explore other applications that involve graphene-based nanomaterials.

The company is also developing its 100% owned Albany Graphite Deposit in Northern Ontario, Canada. The deposit is a large resource of igneous-hosted, fluid-derived micro-crystalline graphite mineralization contained in two adjacent breccia pipes. The unusual nature of the graphite in the Albany deposit and its potential economic significance motivated additional exploration drilling from 2012 to 2014, when an initial NI 43-101 compliant resource estimate was prepared by independent consultants Roscoe Postle Associates ("RPA"). Indicated Mineral Resources reported in RPA's 2014 technical report totaled 25.1 million tonnes ("Mt") at an average grade of 3.89% graphitic carbon ("Cg"). In addition, Inferred Mineral Resources were estimated to total 20.1 million tonnes at an average grade of 2.20% Cg.

The Corporation subsequently retained RPA to complete a Preliminary Economic Assessment ("PEA") on the Albany Graphite Deposit based on a model of producing a high-purity graphite product for multiple market segments. The graphene nano-materials market was not considered as part of the June 2015 PEA model. The results indicated economic potential for an open pit mining operation producing 30,000 tonnes of high-purity graphite per annum for at least 22 years.

The mining claims comprising the Albany Graphite Project are located approximately 30 km north of the Trans-Canada Highway, near the community of the Constance Lake First Nation and 86 km northwest of the Town of Hearst, Ontario. On April 10, 2018, the ground staked legacy claims were converted to cell claims as part of the Ontario government's Modernizing the Mining Act (MAM) process and the Project now consist of 71 boundary claims and 266 cell claims for a total of 541 units. The current claims require a total of $195,600 worth of assessment work per year to keep them in good standing and ZEN has a total of approximately $5.8M in available exploration reserves. Any remaining peripheral claims were allowed to lapse so that the Company can focus funds and efforts on the development of its Albany Graphite Deposit.

The Corporation was registered and incorporated in Ontario, Canada as 1774119 Ontario Limited on July 29, 2008. Pursuant to Articles of Amendment dated November 24, 2009, the Corporation changed its name to Zenyatta Ventures Ltd. On December 23, 2010, the Corporation became a reporting issuer in Ontario, Alberta and British Columbia. Following the receipt of approval at the 2018 Annual Meeting of Shareholders held on September 27, 2018 and subsequent approval from the TSX Venture Exchange, the Corporation implemented a name change effective January 16, 2019 to ZEN Graphene Solutions Ltd. The common shares of the Corporation commenced trading on the TSX Venture Exchange under the symbol ZEN and in the United States on the OTCQB under the symbol ZENYF and continue to trade on these exchanges under these symbols.

Future Outlook

The Company is currently focused on monetizing its patent-pending antimicrobial coating. Bantrel Co. has been engaged to carry out detail engineering for a plant and procure the equipment for the industrial production of the antimicrobial coating at 1123 York Road in Guelph, Ontario, where ZEN has leased 26,000 square feet of industrial space for a three-year term and an option for an additional three years. Additionally, the company has purchased third-party graphene oxide to expedite the manufacturing process and will continue to do so in the near term. Furthermore, the company will endeavour to manufacture graphene oxide internally, initially from third-party graphite and eventually from its Albany Pure™ graphite to both protect its supply chain and create a vertical integration structure.

ZEN is also focused on the strong research and development pipeline it has developed with its multiple university research partners. Some of these programs are advanced and the company believes some will lead to the filing of additional provisional patents during the current calendar year.

The Corporation is continuing to evaluate the potential development of the Albany Graphite Project which is located in the traditional territory of the Constance Lake First Nation (CLFN). ZEN is committed to developing a partnership agreement with CLFN towards collaboration on business development following the Memorandum of Understanding signed on September 27, 2018. The Corporation is also committed to minimizing the project's environmental footprint and its impacts on the local watershed and wildlife.

At March 31, 2021, the Corporation had working capital of $879,211 and up to $2,279,000 of funds available through warrant conversion, sufficient to fund the Company's general administration, engineering work for the manufacture of its patent-pending antimicrobial coating, and other activities; however, additional financing will be required to allow the Company to continue to fund its ongoing project development activities.

Overall Performance

During the year ended March 31, 2021, the Corporation was mainly involved in graphene R&D activities which lead to 2 patent filings and 1 patent license and product market development which lead to the company's first commercial deal. Overall, during the year ended March 31, 2021, the Corporation had cash expenditures of $3,386,380 consisting mainly of deferred exploration and evaluation costs, research and development costs and operating expenses.

As at March 31, 2021, the Corporation had $26,159,729 in deferred exploration and evaluation costs as a result of its airborne survey, additional staking and exploration costs, drilling program, which includes $1,292,500 worth of cash, shares and warrants issued to Cliffs Natural Resources Exploration Canada Inc. ("Cliffs Canada") in connection with the Amended Albany Agreement.

Results of Operations

Net loss

The Corporation recorded a loss of $1,229,067 with basic and diluted loss per share of $0.01 for the three month period ended March 31, 2021 (2020 – loss of $636,146 and $0.01). The loss for the year ended March 31, 2021 was $3,868,650 with basic and diluted loss per share of $0.05 (2020 – loss of $1,540,877 and $0.02).

Revenue

The Corporation is currently in the development stage and therefore did not have revenue from operations. Interest and other income for the three month period ended March 31, 2021 was $1,712 (2020 - $2,496). Interest and other income for the year ended March 31, 2021 was $6,462 (2020 - $6,529). The premium on flow-through shares recognized for the three month period ended March 31, 2021 was $13,111 (2020 - $39,571). The premium on flow-through shares recognized for the year ended March 31, 2021 was $109,795 (2020 - $39,571). Grant income recognized for the three month period ended March 31, 2021 was $141,456 (2020 – negative $276,066). Grant income recognized for the year ended March 31, 2021 was $337,628 (2020 - $90,898). Grant income netted against the exploration and evaluation assets for the three month period ended March 31, 2021 was $25,284 (2020 – $374,076). Grant income netted against the exploration and evaluation assets for the year ended March 31, 2021 was $132,732 (2020 - $374,076).

Expenses

Stock-based compensation costs were $706,207 for the three month period ended March 31, 2021 (2020 - $31,198) and $2,018,416 for the year ended March 31, 2021 (2020 - $293,575). Stock-based compensation was based on the fair value of the options described in Note 6(c) of the audited financial statements as calculated using the Black-Scholes option pricing model. Stock-based compensation is recognized over the vesting period of the underlying options.

General and administrative expenses were $355,525 for the three month period ended March 31, 2021 (2020 - $233,257) and $969,207 for the year ended March 31, 2021 (2020 - $703,496). The most significant components of general and administrative expenses are wages and benefits. The following table details the material components of the Corporation's general and administrative expenses for the years ended March 31, 2021 and 2020.

	Year Ended March 31, 2021	**Year Ended March 31, 2020**
Salaries and Benefits	$ 516,784	$ 265,283
Meals and Entertainment	13,618	30,222
Transfer Agent Fees	12,941	6,998
Accommodations	24,740	33,354
Investor Communications	105,521	172,370
Travel	40,104	40,223
Occupancy and Office Expenses	255,499	155,046
Total	**$ 969,207**	**$ 703,496**

Professional fees were $86,899 for the three month period ended March 31, 2021 (2020 - $60,807) and $548,922 for the year ended March 31, 2021 (2020 - $241,498). These fees consist primarily of the amounts charged for services provided by the Corporation's lawyers, auditors, and accountants.

Investor relations and promotion expenses were $8,559 for the three month period ended March 31, 2021 (2020 - $22,049 and $70,411 for the year ended March 31, 2021 (2020 - $92,023). These expenses consist primarily of the costs of consultants, marketing trips and other costs such as attending industry conferences.

Consulting fees were $102,500 for the three month period ended March 31, 2021 (2020 - $(3,572)) and $392,752 for the year ended March 31, 2021 (2020 - $182,618). The most significant component of the consulting costs incurred were for consultants working on metallurgical testwork, field program planning and graphene product development activities.

Amortization expense was $96,823 for the three month period ended March 31, 2021 (2020 - $11,708) and $126,799 for the year ended March 31, 2021 (2020 - $24,879). Amortization is taken on the capitalized cost of the Corporation's computers, equipment, leasehold improvements and right-of-use asset.

Supplies and materials expense was $28,833 for the three month period ended March 31, 2021 (2020 - $nil) and $196,028 for the year ended March 31, 2021 (2020 - $nil). These expenses mainly related to supplies and materials purchased to continue graphene development.

Cash Flows

During the three month period ended March 31, 2021, cash increased overall by $950,270 (2020 – decreased by $649,485). Operating activities resulted in a decrease in cash of $488,392 (2020 – decrease of $668,586) due to continued spending on consulting and professional fees and general and administrative expenses. Investing activities resulted in a decrease in cash of $638,670 (2020 – increase of $19,101) due to continued spending on graphene production scale up and application development. Financing activities resulted in an increase in cash of $2,077,332 (2020 – increase of $nil) due to net proceeds received from unit subscriber deposits as well as proceeds received from the exercise of stock options and warrants.

During the year ended March 31, 2021, cash increased overall by $2,285,602 (2020 – decreased by $415,545). Operating activities resulted in a decrease in cash of $1,794,683 (2020 – decrease of $1,356,386) due to continued spending on consulting and professional fees and general and administrative expenses. Investing activities resulted in a decrease in cash of $1,233,243 (2020 – decrease of $1,235,136) due to continued spending on graphene production scale up and application development. Financing activities resulted in an increase in cash of $5,313,528 (2020 – increase of $2,175,977) due to net proceeds received from the issuance of units, unit subscriber deposits and proceeds received from the exercise of stock options and warrants.

Mineral Exploration and Development Costs

Interest in mineral properties and related exploration/development costs capitalized were $426,121 for the three month period ended March 31, 2021 (2020 – negative $20,966) and $1,094,658 for the year ended March 31, 2021 (2020 - $1,010,899). All of these costs relate to the Albany Project. Costs capitalized relate to contracted consulting services on graphene production scale up and application development, deposit development costs, and stock-based compensation. The following table details the material components of the Corporation's exploration and evaluation assets for the years ended March 31, 2021 and 2020.

ALBANY PROPERTY	Year Ended March 31, 2021	Year Ended March 31, 2020
Opening Balance	$ 25,065,071	$ 24,054,172
Drilling	-	(130,654)
Contractor Services	183,572	184,949
Equipment Rental	-	9,198
Supplies	-	19,530
Processing and Testing	866,277	121,308
Metallurgical Testing	-	840,497
Site Costs	-	177,756
Flights	-	119,939
Fuel	-	21,021
Stock-Based Compensation	177,541	21,431
Cost recovery (grants)	(132,732)	(374,076)
Closing Balance	**$ 26,159,729**	**$ 25,065,071**

Albany Graphite Project

Land Tenure

The Albany Graphite Deposit is located on one of the claim blocks (4F) collectively comprising the Albany Graphite Project (the "Claims"). The Corporation acquired its 100% interest in Block 4F under the terms of an option agreement with Cliffs Canada (the "Optionor") entered into in the year ended March 31, 2010. The balance of the Claims were acquired by staking and are 100% owned by the Corporation.

The Claims are located in the traditional territory of the Constance Lake First Nation. In July 2011, ZEN and CLFN signed an exploration agreement for a mutually beneficial and co-operative relationship regarding exploration and pre-feasibility activities on the Albany Project. Under this agreement, ZEN committed to establishing a joint implementation committee and conveying preferential opportunities for employment and contracting as well as contributing to a social fund for the benefit of CLFN children, youth and elders. In 2018, the parties signed a new Memorandum of Understanding ("MOU") under which a project partnership structure will be created in support of the development of the Albany Graphite Project (the "Project"). Under the new MOU, the parties can also consider alternative partnership structures including equity participation by CLFN in the Project. This new agreement provides for more flexibility to accommodate alternative business models as the Project progresses toward becoming a graphene nano-materials technology business. On June 22, 2019, Rick Allen was re-elected for a third consecutive term as CLFN Chief. ZEN looks forward to continue working with Chief Allen and CLFN to set up a mutually agreeable partnership structure.

The Claims comprising the Albany Graphite Project are presently held in good standing by the Corporation and there are sufficient assessment credits available to keep all of the 4F (Albany Graphite Project) claims in good standing for at least 30 years. There are no environmental liability issues related to any previous exploration work on the Claims. The Corporation has not received from any government authority, any communication or notice concerning any actual or alleged breach of any environmental laws, regulations, policies or permits.

Project Exploration and Development History

A two-phase exploration program on the Albany Project in 2011 and 2012 led to the discovery of a unique graphite deposit. Testing a large airborne EM conductor measuring 1400 m by 800 m in late 2011, the first drill hole on this target intersected an extensive graphite-rich breccia zone hosted within an alkalic intrusion. The deposit is not exposed on surface, being under glacial till overburden and a veneer of limestone. Subsequent mineralogical studies conducted by Dr. Andrew Conly of Lakehead University characterized the deposit as an

unusual magmatic, fluid-related style of graphite mineralization. Follow-up work was recommended as a magmatic, fluid-related, breccia-hosted graphite deposit of this magnitude is very rare.

Subsequent drilling and geophysical surveys completed in 2012-13 delineated a large resource in two adjacent volcanic breccia pipes leading to an initial NI 43-101 compliant resource estimate announced in January 2014. Preliminary metallurgical testwork in 2013 demonstrated that a high-purity graphite product with >99.99% Carbon can be produced from the Albany graphite deposit mineralization. Initial mineralogical work confirmed the graphite material to be of high- quality, containing insignificant amounts of impurities.

An independent Technical Report was completed in January 2014 by Roscoe Postle Associates Inc. ("RPA"), who are independent "qualified persons" as defined by National Instrument 43-101 ("NI 43-101"). RPA estimated Indicated Mineral Resources to total 25.1 million tonnes ("Mt") at an average grade of 3.89% graphitic carbon ("Cg"), containing 977,000 tonnes of Cg. In addition, Inferred Mineral Resources were estimated to total 20.1 million tonnes at an average grade of 2.20% Cg, containing 441,000 tonnes of Cg. These results are based on a cut-off grade of 0.6% Cg with an assumed market price of $8,500 per tonne Cg. The results below, as given in the Technical Report, show that even if the assumed market price of Cg varies, any appropriate increase in the cut-off grade results in a relatively minor reduction of the resource estimate.

	Tonnage	**Grade**	**Tonnes Graphitic Carbon**
Classification, Cut-off Grade	**(Mt)**	**(%Cg)**	**(t Cg)**
Indicated			
2.0	20.7	4.41	914,000
1.0	24.3	3.99	971,000
0.6	25.1	3.89	977,000
0.4	25.4	3.85	978,000
Inferred			
2.0	9.4	3.34	315,000
1.0	15.9	2.57	408,000
0.6	20.1	2.20	441,000
0.4	23.0	1.98	455,000

Peter Wood, P.Eng., P.Geo., and Alex Mezei, M.Sc., P.Eng., were the Qualified Persons under National Instrument 43-101 who supervised the preparation of this scientific and technical information.

2015 Preliminary Economic Assessment ("PEA")

On June 1, 2015, the Corporation announced the results of a PEA on its Albany Graphite Project. The PEA was prepared by RPA with mill design input from SGS and can be found on the Corporation's website, www.zengraphene.com. It was prepared on the assumption that the product would be a high-purity graphite material for markets specific to this material and did not consider the newly emerging graphene market.

Subsequent to completion of the 2015 PEA, most of the Albany Project work has been focused on metallurgical process development, market studies and research and development to determine the most attractive market opportunities for the Albany graphite products. Increasing interest in the Albany Graphite product as a feed material for producing graphene or graphene oxide, is motivating management to reconsider the project development model conceived for the 2015 PEA.

The results of the 2015 PEA are summarized here for reference and historical context for the current project development model focusing on nano-material technology. Ultimately, the Albany Graphite Project could be developed to serve both the high-purity graphite and the emerging graphene nano-materials markets, in proportions depending on relative profitability and market demand growth projections of each product. The 2015 PEA contemplated a 3,000-tonne per day open-pit mine and on-site process plant to produce 30,000 tonnes

of high-purity (>99.9% Cg) graphite annually at a total capital expenditure of US$411.5 million. This yielded a 22 mine life based on less than 50% of the Indicated and Inferred Resources. Based on a graphite price assumption of US$7,500/tonne and operating costs of $2,046/tonne, the Discounted Cash Flow ("DCF") model showed an attractive after tax Internal Rate of Return ("IRR") of 24% and Net Present Value ("NPV") at a 10% discount rate of US$438 million.

Jason Cox, P.Eng. Executive VP – Mine Engineering - Principal Mining Engineer of RPA, Alex Mezei, M.Sc., P.Eng., Director, Engineering Technical Services at SGS Lakefield, independent consultants to ZEN, Peter Wood, P.Eng., P.Geo., VP Exploration and Dr. Bharat Chahar, P.E., VP Market Development for ZEN were the Qualified Persons under National Instrument 43-101 for the 2015 PEA.

In Q1 2019, the company executed a bulk sample drill program where two 24-inch diameter percussive reverse circulation drill holes were completed on the East Pipe and yielded over 110 tonnes of Albany Graphite mineralization. This is sufficient material to produce approximatively 6 tonnes of purified graphite which will be used as precursor graphene material for graphene applications testing. The recovered material is currently stored with SGS in Lakefield, Ontario.

Additionally, in April 2019, ZEN, ERM Canada Ltd. (ERM) and CLFN kicked off the environmental baseline study fieldwork with a surface water sampling and flow measurement program. Due to Covid, the program was put on hold until further notice.

Graphene Business Development Work

ZEN's graphene product development is being carried out under the direction of the office of the CEO comprised of Mr. Gregory Fenton and Dr. Francis Dubé. Dr. Colin van der Kuur, VP of Science and Research, continues to lead the research and development work. His work is supported by ZEN's Senior Government Relations Director, Ms. Monique Manaigre, who is coordinating collaborative research initiatives within government institutions such as the National Research Council, Clean Growth Hub, Accelerated Growth Hub, FedNor, FedDev and others.

ZEN's potential to provide high-quality graphene products coupled with the potential to deliver industrial quantities for decades continues to generate considerable interest from many industrial companies. This interest was further enhanced by the potential to chemically functionalize ZEN's graphene to suit specific requirements and/or industrial equipment or process.

The business development team, led by Greg Fenton, continues to focus its efforts on applications which will potentially require high volumes of graphene. The essential business development process is generally as follows: identify strong profitable graphene applications, then target specific end users and identify key decision makers within a given organization. Once discussions commence and non-disclosure agreements are signed, work can begin on bringing graphene products through lab, pilot and full scale testing. The work to bring each of these graphene products forward may or may not include multiple points of contact with various levels of government, potentially more than one end user and potentially more than one research team from a given university. Ongoing discussions took place for potential opportunities for which some of the highlights have been disclosed in recent news releases.

ZEN announced its first significant research success on September 22, 2020, when it reported that after five months of optimization, it had developed a novel graphene-based antimicrobial coating with 99% effectiveness against COVID-19. Testing was conducted at Western University's ImPaKT facility Biosafety Level 3 laboratory in accordance with ISO 18184:2019. Building on this success, the ZEN team indicated that it would move rapidly towards optimization, production scale-up and commercialization of its viricidal graphene-based coating which had attracted significant interest from PPE mask and equipment manufacturers.

On November 9, 2020, in a watershed moment for the company, ZEN announced that it had signed its first significant commercial agreement, a binding letter of intent (LOI) with Trebor Rx Corp. (Trebor), a Canadian personal protective equipment mask manufacturer with an initial production facility located in Collingwood,

Ontario. The LOI included the initial purchase of ZEN's patent pending graphene-based viricidal coating for a minimum of 100 million masks/filters with pricing of these mask/filters being variable based on a number of factors.

Additionally, on January 18, 2021, the Company announced that it had entered into an agreement with Trebor for the application of its antimicrobial coating on nitrile gloves sourced or produced by Trebor (the "Trebor Agreement"). In connection with the Trebor Agreement, the Company will provide Trebor with a distribution agreement for Canada, USA, and Mexico and Trebor agreed to use the Company's graphene-based coating on all gloves sold and will pay the Company a royalty per glove coated, with a minimum first year guarantee of 100 million gloves.

ZEN is also actively pursing the potential us of its virucidal coating in HVAC filter and prefilter applications.

Metallurgical Process Development Work

On July 16, 2018, the Corporation announced significant improvements to the metallurgical process developed for the Albany graphite mineralization including improved recovery from 75.4% in the PEA to approximately 90% with a simpler, lower energy process that has a lower reagent consumption and also permits more efficient recycling of the leach solutions.

The testwork program investigated a process based on high-pressure caustic leaching of graphite concentrate followed by acid leaching (ZEN Pressure Leach or ZPL). It was concluded that a purity of 97.5% Cg, representing 85% impurity removal, could be consistently achieved. Process conditions chosen for the tests were kept within industry proven limits of temperature and caustic concentration. A second stage acidic fluoride leach (ZHL) process was also investigated to upgrade the ZPL product to >99% purity. ZHL purification using a solution containing a mixture of NH_4F and HCl yielded a minimum graphite purity of 99.8% Cg. The process operates at 50°C, will require relatively simple equipment and has a low reagent and energy consumption. During the quarter ended March 31, 2019, ZEN provided an update on the Company's locked cycle purification tests on the new process which successfully simulated an industrial process which was utilized to purify Albany Graphite concentrate. This successful test was a significant step forward towards industrial graphene production. A final product purity of approximately 99.8% Cg appears to be the practical upper limit of this hydrometallurgical processing. This final product will be used as a precursor material for the Company's developing graphene applications such as graphene enhanced concrete and other composites. This work was carried at SGS under the direction of James Jordan, P.Eng., Project Manager.

The updated process flowsheet (flotation and purification) will also be further tested and verified for scale-up with the 110 tonne bulk sample. Once this material has been purified to approximatively 99.8%, it will be exfoliated into graphene and graphene oxide products for continued larger scale end user evaluation. The graphene conversion process is also under investigation for improvements in process efficiency under three university research collaborations (discussed above under Business Development).

With the new information on the process flowsheet and on the graphene product demand and pricing, ZEN will decide to proceed with the preparation of an updated PEA to reflect the new graphene focused development model or to proceed directly to a PFS (Pre-Feasibility Study). Given the fact that graphene continues to be an emerging market opportunity with excellent growth potential, the updated PEA/PFS will reflect a staged development approach starting at a modest scale with low initial capital expenditures, then expanding production as markets grow. Accordingly, initial development by underground mining methods is being contemplated as a more appropriate mine development model for this approach. This has the additional benefit of a greatly reduced environmental footprint compared to the original open pit model developed for the 2015 PEA.

More recently on March 26, 2020, ZEN announced that it had purchased and was commissioning a purification autoclave to commence the production of high-purity Albany graphene precursor material. The autoclave has been installed and commissioned and several test runs have been completed. Subsequent graphite assay results

confirmed a purity of 99.8% was achieved. No additional metallurgical process development has been completed as ZEN has focused on the development of its graphene-based antimicrobial coating.

Administration and Investor Relations

ZEN's recent administration and investor relations activities are summarized below:

On January 28, 2020, 50,000 stock options with an exercise price of $0.50 and 100,000 stock options with an exercise price of $0.40 expired.

On February 4, 2020, as the Company moves forward towards graphene production and applications development, ZEN announced that James Jordan, P.Eng.,was promoted to Chief Operating Officer (COO). Additionally, Colin van der Kuur was appointed as Head of Research, and Monique Manaigre as Senior Government Relations and Account Manager.

Subsequently, ZEN reported that further to the December 20, 2019, closing of its private placement of flow-through common shares, an aggregate amount of $54,840 in finders' fees as well as an aggregate amount of 137,100 broker warrants were paid to certain brokers in connection to the offering. These broker warrants will expire on December 19, 2021 and have an exercise price of $0.50 per warrant share.

On February 10, 2020, 250,000 stock options with an exercise price of $0.53 expired.

On April 21, 2020, 100,000 stock options with an exercise price of $1.87 expired.

On August 31, 2020, 100,000 stock options with an exercise price of $1.46 expired.

On May 8, 2020, ZEN reported on the following corporate activities and agreements:

Warrants Extension
ZEN applied to the TSX Venture Exchange (the "Exchange") for approval to extend the expiry date of 655,848 common share purchase warrants. On June 22, 2018, the Corporation completed a private placement issuing 1,311,693 units (the "Units") at a price of $0.55 per Unit. Each Unit was comprised of one common share in the capital stock of the Company and one-half (½) of one purchase warrant (a "Warrant"), with each whole such Warrant exercisable into one common share at an exercise price of $0.80 per common share until June 22, 2020.

The Company was approved to extend the expiry date of the warrants by an additional 12 months to June 22, 2021. All other terms and conditions of the warrants will remain the same.

Shares for Debt Agreements
ZEN has also entered into an agreement to issue 115,711 Common Shares to settle an aggregate amount of $45,200 owed to AGORA Internet Relations Corp. All securities issued in exchange for debt will be subject to a hold period from the date of issuance in accordance with applicable securities laws.

The Company also reported the issuance of shares in connection with its previously announced shares for debt agreement with Alphabet Creative. The Company issued 47,222 common shares at a deemed price of $0.36 per common share in settlement of a debt of $17,000 owed by the Company. The common shares issued in connection with the shares for debt agreement were subject to a hold period until May 1, 2020, in accordance with applicable securities laws.

Stock Option Grants
On May 8, 2020, ZEN granted 600,000 stock options to its directors and certain officers, employees and consultants. These Options are exercisable for an aggregate of 600,000 Common Shares, at an exercise price of $0.40 per Common Share for a period of five years from the date of grant. Each director of the Company was granted 50,000 options which will vest as to one-third (⅓) on the date of grant, one-third (⅓) after six months

of the date of grant and one-third (⅓) after 12 months of the date of grant. The remaining 350,000 options issued to officers, employees and consultants will vest as to one-third (⅓) on the date of grant, one-third (⅓) on the first anniversary of the date of grant and one-third (⅓) on the second anniversary of the date of grant.

On May 16, 2020, ZEN granted 100,000 stock options to a consultant with an exercise price of $0.40 per share and an expiry date of May 16, 2025. The vesting period of the options granted to the consultant is as follows: one-third (⅓) on the date of grant, one-third (⅓) on the first anniversary of the date of grant and one-third (⅓) on the second anniversary of the date of grant.

On June 15, 2020, ZEN announced an offering of units (the "Units") of the Company on a non-brokered private placement basis. Each Unit was offered at a price of $0.60. The Offering was subject to TSX Venture Exchange (the "Exchange") approval.

Each Unit will be comprised of one Common Share of the Company and one-half of one non-transferable Common Share purchase warrant (a "Warrant"). Each whole Warrant will entitle the holder to acquire one Common Share at a price of $0.80 for a period of 24 months from the date of issuance. All Warrants issued in connection with the Offering will be subject to an acceleration clause. If the Company's share price trades at or above $1.00 per share for a period of ten (10) consecutive trading days during the exercise period, the Company indicated that it may accelerate the expiry date of the Warrants to 30 calendar days from the date on which the Company gives a written notice to the Warrant holders.

ZEN also reported that the proceeds of the Offering would be used to fund ongoing work on the Albany Graphite Project including graphene research and scale up, COVID-19 initiatives and other graphene applications development and for general corporate purposes.

On June 17, 2020, ZEN provided an update on the private placement and indicated it had received expressions of interest from investors in an amount of $1,777,000 for the Offering which was announced on June 15, 2020. These expressions of interest far exceeded management's expectations and, subject to TSX Venture Exchange approval, the Company was working diligently to complete the Offering. Management believed that this highlights the progress ZEN has made in becoming an advanced materials graphene company. Following the completion of the Offering, ZEN's cash balance exceeded any balance in recent years thereby ensuring that the Company could continue executing its business plan during the COVID-19 pandemic.

On July 6, 2020, 100,000 stock options were issued to a consultant. The stock options have an exercise price of $0.68 per share and an expiry date of July 6, 2025. The vesting period of the options granted to the consultant is as follows: 1/3 at July 6, 2020; 1/3 at July 6, 2021; 1/3 at July 6, 2022.

On July 6, 2020, the Company completed the second and final tranche of a private placement resulting in 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 will entitle 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 closing of the offering.

On July 14, 2020, the Company retained Hybrid Financial Ltd. ("Hybrid") to provide marketing services. Hybrid was engaged to heighten market and brand awareness for ZEN Graphene Solutions and to broaden the Company's reach within the investment community. Hybrid was engaged for an initial period of 6 months starting July 10, 2020 (the "Initial Term") which could then be renewed for successive 3 month periods thereafter, unless terminated by the Company in accordance with the Agreement.

From July 16, 2020 to July 29, 2020, two option holders, who are neither directors nor officers of the Company, exercised a total of 500,000 options at an exercise price of $0.53 per option resulting in proceeds of $265,000 to the Company.

On July 24, 2020, 150,000 stock options were issued to a consultant. The stock options have an exercise price of $0.63 per share and an expiry date of July 24, 2025. The vesting period of the options granted to the consultant is as follows: 1/3 at July 24, 2020; 1/3 at July 24, 2021; 1/3 at July 24, 2022.

On October 6, 2020, 400,000 stock options were issued to directors and officers. The stock options have an exercise price of $0.75 per share and an expiry date of October 6, 2025. The vesting period of the options granted to the directors and officers is as follows: 1/3 at October 6, 2020; 1/3 at April 6, 2021; 1/3 at October 6, 2021.

On October 9, 2020, ZEN signed a 2 year extension with Chemisar Laboratories Inc. ("Chemisar") to provide various consulting services which includes the use of 4,300 square feet of office and laboratory space in Guelph, Ontario commencing on January 1, 2021. The additional 2000 sq ft will be utilized to work on scale up effort for the company's patent pending Viricidal Coating manufacturing in response to the significant demand the company has received since announcing the patent filing on September 22, 2020. ZEN also negotiated a right of first refusal for the purchase of the facility in the new agreement.

At that time, the company also announced that it had received $419,000 in the last few months from the exercise of warrants and options.

On November 30, 2020, ZEN announced that it had received $655,027.60 in warrant exercise since its last financial report dated September 30, 2020, and had another $2,594,426.50 of potential warrant exercise, $2,160,676.10 of which was subject to an acceleration clause as the stock had traded over $1.00 for the required minimum of 10 days. However, at that time, the company did not plan to accelerate the warrants as they were being exercised voluntarily.

On December 8, 2020, the Company announced the appointment of Mr. Gregory Fenton as the Chief Executive Officer of the Company, Dr. Francis Dubé as the Executive Chairman of the board of directors, and Dr. Colin van der Kuur as VP Science and Research. The Company also announced the creation of the Office of the CEO which will comprise both Mr. Fenton and Dr. Dubé. Together, they will craft the strategic direction of the company, including market development of ZEN's patent pending, graphene-based viricidal coating, new product launches, strategic partnerships along with mergers and acquisitions.

On January 20, 2021, ZEN announced that it had added the following individuals to its talented and growing team: Ryan Shacklock (Director, Market Development & Investor Relations), John Cornish (Senior Project Manager), Dr. Deepak Sridhar (Science & Research-MITACS) and Malik Hay (Lab Technician). Ryan is based in Saskatoon, Saskatchewan and report to the CEO Office – Greg Fenton, CEO and Francis Dubé, Executive Chairman of the Board. John, Deepak and Malik are based in Guelph, Ontario and report to James Jordan, VP Operations.

On February 24, 2021, ZEN announce that it had been recognized as a Venture 50 company by the TSX Venture Exchange for 2020. The TSX Venture 50 is a ranking of the top performers on the TSX Venture Exchange over the last year based on three equally weighted criteria: market capitalization growth, share price appreciation, and trading volume.

On March 4, 2021, ZEN announced further steps in collaboration with Constance Lake First Nation (CLFN) led by Chief Rick Allen. Pursuant to the July 13, 2011, Exploration Agreement, the July 19, 2018, Memorandum of Understanding and subsequent September 24, 2018 amendment, both parties had signed an Implementation Agreement (IA).

The IA sets out the governance, roles, responsibilities, and activities for establishing the Project Partnership Structure (PPS) to advance the Albany Graphite development (Development) and the relationship between ZEN and CLFN. The PPS will establish a framework and describe a structure to govern the long-term partnership between CLFN and ZEN to advance the Development. Building on our cooperative and respectful relationship, recognizing the importance of CLFN's stewardship of the land and the shared benefits of the Development, the

PPS aims to establish a shared governance committee structure for identified areas of mutual interest relating to the Development.

Subsequent to the three month period ended December 31, 2020, numerous warrant holders exercised a total of 70,917 warrants at an exercise price of $0.80 per warrant resulting in proceeds of $56,733 to the Company.

Graphene Research and Development, and Project Development Activities

In January 2018, ZEN announced a new strategic focus on the extraordinary nano-material called graphene, which is easily converted from the Company's highly crystalline Albany graphite deposit. Graphene is emerging as the most promising new material in modern times for enhancing applications in various industries due to its unique combination of mechanical, electrical and thermal properties. Graphene, a single sheet of carbon discovered in 2004 at the University of Manchester, can perform all of these functions.

Many corporate and academic R&D facilities around the world are currently competing to find the most effective, cost efficient and scalable process to produce high-quality graphene. These companies still require a consistent source (or precursor) material for conversion to graphene which is then applied to their various products for enhancement. ZEN has a significant competitive advantage with the ownership of a large and high-quality supply of source material, Albany graphite, in Canada. The Company is continually assessing the various simple graphene conversion methods being utilized on its high-purity graphite material by its network of collaborative partners with the goal of defining a scalable, low cost, low energy and environmentally friendly exfoliation process. In the near future, ZEN plans to source the appropriate equipment required for a graphene manufacturing (exfoliation) process and evaluate the associated costs for graphene production in a vertically integrated structure.

Advanced testing on potential new processes for commercial graphene production is also underway. ZEN continues to work with two universities on different processes that could potentially lead to a more efficient process for ZEN's commercialized graphene production, at a lower cost than those previously anticipated. These processes are also producing high-yield results with low energy requirements and minimal environmental impacts.

ZEN's graphene R&D, and project development activities for 2020 are summarized below:

In January 2020, Colin van der Kuur visited the Graphene Engineering Innovation Centre (GEIC) at the University of Manchester and attended also the Batterieforum in Berlin, Germany where DLR and ZEN presented a poster of the encouraging battery results of the newly developed graphene aerogel composite anode material.

On February 4, 2020, ZEN announced the grand opening of its Guelph facility on March 3, 2020. The facility will be used for small-scale pilot plant production to produce future Albany Pure™ graphene products as well as further research and development work. The company is currently sourcing and purchasing the necessary equipment to build a small-scale graphite purification pilot plant that will produce 99.8% high-purity graphite from the flotation concentrate (86%).

On March 2, 2020, ZEN announced the launch of Albany Pure™ graphene products on their website at https://shop.zengraphene.com/. The Company plans to expand its product line to bring Graphene Quantum Dots, Graphene Oxide, Reduced Graphene Oxide, and other graphene-based products to the market.

Subsequently, on March 26, 2020, the company announced that it had commenced scale-up and engineering studies on processes for the production of Albany Pure™ Graphene products at the Company's research and development facility in Guelph, Ontario. The priority is to increase graphene production in anticipation of future demand as the Company launched graphene product sales in early March 2020. At this time, ZEN also started to commission its new purification autoclave to commence the production of high-purity Albany graphene precursor material.

ZEN also reported products produced from the Albany Graphite deposit will bear the Albany Pure™ Seal of

Authenticity which represents that the material was sourced from its unique Albany Graphite and meets the Company's high-quality standards.

On April 30, 2020, ZEN announced an international collaboration with UK-based Graphene Composites Ltd. (GC) to fight COVID-19 by developing a potential virucidal graphene-based composite coating that can be applied to fabrics including N95 face masks and other personal protective equipment (PPE) for significantly increased protection. The Company reported that once the development, testing, and confirmation of the graphene coating's virucidal ability have been completed, the coating would then be incorporated into fabrics used for PPE. The ZEN GC collaboration has since been terminated.

Efficacy testing of the silver-graphene oxide-based coating to kill the COVID 19 virus (SARS-CoV-2) was conducted at Western University's ImPaKT Facility Biosafety Level 3 lab in Ontario.

On June 8, 2020, ZEN reported that it would be providing Albany Pure™ Graphene Oxide produced by its Guelph facility for development of a rapid, ultrasensitive and low cost bio-sensor to detect the presence of the SARS-CoV-2 antigen and/or antibodies in COVID-19 suspected patients. This research is led by Prof. Maxim Berezovski, a full Professor at the University of Ottawa. Prof. Berezovski leads the Berezovski Research Group and the Bioanalytical and Molecular Interaction Laboratory. This research is funded by an initial grant of approximatively $400,000 from the National Sciences and Engineering Council (NSERC).

Additionally, ZEN reported that it had partnered with Prof. Aicheng Chen, Canada Research Chair Tier 1 in Electrochemistry and Nanoscience, who was awarded a $50,000 NSERC Alliance COVID-19 grant for a proposal titled "Development of Advanced Graphene-Based Antiviral Nanocomposites against COVID-19." ZEN will be providing an in-kind contribution of $26,700 in materials, staff salaries and access to its Guelph facility. The project builds directly on results and IP from previous NSERC CRD/OCE VIP II projects.

The company also reported that it was continuing the development of a potential virucidal graphene oxide-based coating that could be applied to fabrics including N95 face masks and other personal protective equipment (PPE) for significantly increased protection. The Company had produced two batches of samples using different formulations that were being tested by Western University's ImPaKT Facility Biosafety Level 3 lab for antiviral activity. Additionally, ZEN reported that it had discontinued its collaboration with Graphene Composites Ltd. previously announced on April 30, 2020.

On June 9, 2020, ZEN announced it will be commencing a new research collaboration with Prof. Mohammad Arjmand and his team at the University of British Columbia (UBC)-Okanagan Campus, with a $200,000 Department of National Defence (DND) Innovation for Defence Excellence and Security (IDEaS) contract. ZEN will be providing in-kind contributions of Albany Pure™ materials and consultation with its technical team.

The goal of the collaborative research project is to develop electrically conductive, molded and 3D printed graphene/polymer nanocomposites as more versatile replacements for metallic electromagnetic shields that are currently in use. The new shields will be lightweight and corrosion resistant along with the additional benefits of low cost, ease of processing and improved design options compared to current metallic shields. In this collaboration, the developed conductive polymer shields will protect sensitive electronic equipment in satellites; however, the shields will also have use in a broad spectrum of applications in various industries, such as information technology, medical sciences, automotive, defence, and aerospace. The technology of developing 3D printing multifunctional polymer nanocomposite filaments will also allow for the rapid, low-cost fabrication of complex geometries of multifunctional polymer nanocomposites such as artificial electromagnetic shields. If DND elects to advance the project to Phase 2, it will support the research with a $1 million contract.

On June 11, 2020, the company announced that it had received a report on the first batch of samples that were submitted to Western University's ImPaKT Facility Biosafety Level 3 lab (UWO) for virucidal efficacy testing. The batch-testing program's focus was to confirm and measure virucidal potency of the graphene oxide-based silver nanoparticle composite coatings that were produced at ZEN's Guelph lab.

The company prepared five different formulations with varying oxygen contents and silver nanoparticle loadings for testing at a concentration of 4g/L. All five variations with concentrations diluted to as low as 0.16g/L reduced viral replication. These formulations slowed growth of the COVID-19 Coronavirus in a media designed to replicate human cells. The June 10, 2020, Western University ImPaKT Facility report included the following results: "all compounds that were undiluted, 1:5, and 1:25 dilutions had reduced viral replication (of the SARS-CoV-2 (COVID-19) coronavirus) compared to the no-drug control, potentially reflecting a 25-50% reduction in virus replication."

On July 9, 2020, Evercloak Inc. (Evercloak) and ZEN were awarded $125,000 each as part of a Next Generation Manufacturing Canada (NGen) Project. The project entitled "Advancing Large-Scale Graphene and Thin-Film Membrane Manufacturing" will support the scale up of graphene oxide (GO) production by ZEN to supply GO to Evercloak for their scale up and optimizing activities. NGen supports collaborative technology projects that enable the development of world-leading advanced manufacturing capabilities in Canada.

On July 30, 2020, ZEN announced that it had commenced collaborations with research teams at a number of personal protective equipment (PPE) manufacturers to incorporate ZEN's virucidal graphene coating into commercial products, including masks, gloves, gowns and other clothing. This followed ZEN's promising results for an antiviral, graphene-based coating formulation from Western University's ImPaKT Facility, Biosafety Level 3 lab. The Company also reported that it continued to optimize its proprietary formulation for dosage and delivery mechanism for highest antiviral impact. The next phase of testing was underway at the ImPaKT Facility and included a preferred mask fabric, from one of ZEN's collaborators, coated in its virucidal coating exposed to and tested against the COVID-19 virus.

On August 6, 2020, the Company reported that a recent peer reviewed research article clearly demonstrated that ZEN's Albany Graphite exfoliates more easily than other commercially available flake graphite test samples. Significantly, this article provided quantitative data that ZEN's Albany Pure^{TM} Graphite has the highest exfoliation rate constant of the materials tested, indicating that it exfoliates more easily than the other materials.

This University of Connecticut (UConn) study was published in the peer reviewed journal, Carbon, and utilizes an interfacial trapping exfoliation process which is spontaneous and driven by the spreading of graphene at a liquid-liquid interface between two immiscible fluids (e.g. oil and water) and thus lowering the free energy of the system. The article reported "the time to reach full emulsion for the Albany Pure^{TM} material was much shorter than for other graphite reference material (Figure 1). The paper also concluded that "the source of the graphite plays a role in the exfoliation in addition to the flake size". This advantage will likely translate into a more efficient and economic exfoliation process as the company advances towards commercialization. Additional testing was also conducted to compare the purified East Pipe and West Pipe material and confirmed very similar exfoliation rates for the two pipes (Figure 2).

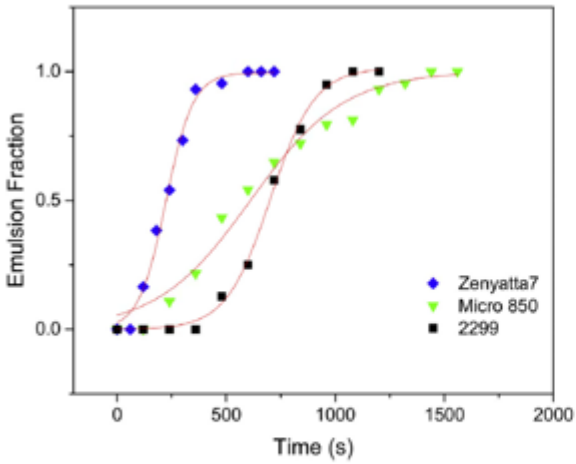

Figure 1: Plot showing ZEN vs. other Graphite (Zenyatta7 = Zen_W1016F)

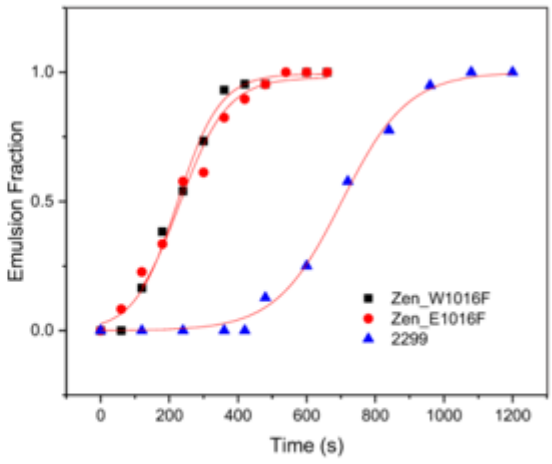

Figure 2: Plot showing East vs. West Pipe

These results provided additional third-party confirmation that Albany Pure™ Graphite exfoliates more easily than other commercially available graphite material and supports the results that were published by Dr. Yoshihiko Arao, Assistant Professor in the Department of Chemical Engineering at Tokyo Tech and reported in an October 16, 2018 news release. It was reported in the article that the particle size was linked to the ease of producing graphene from graphite through exfoliation – the smaller the feed graphite particle, the easier to exfoliate. The researchers further concluded that, due to the size of its flakes, the exfoliation productivity of graphite derived from ZEN's Albany Pure™ Graphite performed up to 1500% better than the researchers' reference flake graphite materials. Interestingly, in the UConn study, the ZEN samples had a slightly larger flake size than the other graphite samples, yet still showed faster exfoliation. The company surmised that the turbostratic nature along with the slightly larger d-spacing between the layers were the reason why Albany Pure™ Graphite performed better in this study.

On September 3, 2020, ZEN reported that industry and university laboratories had fully re-opened in late July-early August after a 4 month hiatus due to the COVID-19 pandemic and they had re-started ZEN's collaborative R&D programs.

The company is also announced the award of two NSERC Alliance COVID-19 project grants, a Mitacs Elevate Postdoctoral Fellowship grant, and two Mitacs Accelerate grants for a total of $355,000 to its university collaborators increasing ZEN's total research and development budget for the next 12 months to over $1.4M. The new grants and research topics are outlined below:

• University of Guelph, Prof. Aicheng Chen, "Development of Advanced Graphene-Based Antiviral Nanocomposites against COVID-19″ ($50,000 NSERC Alliance COVID-19 and $150,000 Mitacs Accelerate over one year);
• University of Ottawa, Prof. Jean-Michel Ménard, "Graphene-based surface coating to prevent fomite transmission of COVID-19" ($50,000 NSERC Alliance COVID-19 over one year);
• University of British Columbia – Okanagan, Prof. Mohammad Arjmand (Supervisor), Dr. Seyyedarash Haddadi (Postdoctoral Fellow), "Graphene-based Corrosion Protective Coatings" ($60,000 Mitacs Elevate over one year and renewable for a second year); and
• University of Toronto, Prof. Daman Panesar (Supervisor), Dr. Tanvir Qureshi (Intern), "Nano-engineered concrete and composites with advanced graphene-based 2D nanomaterials ($45,000 Mitacs Accelerate over one year)

Additionally, the Company reported that, after a necessary break in travel and field activities due to the COVID-

19 pandemic, it had re-engaged ERM Canada Ltd. ("ERM") and CSA Global ("CSA", an ERM company) to continue with an abbreviated environmental baseline program for the Albany Project. This program will focus on project definition and planning, and on a laboratory-based geochemical baseline study. The key aim of the work will be to consider the potential approach to mining the Albany resource based on ZEN's current Vision of Project, and then to develop a roadmap to identify the key work that will be required to advance the Project to the next stage. Integrated project planning will include work to be completed across corporate, engineering, environment, social, and permitting functions.

On September 22, 2020, ZEN reported that after 5 months of optimization, it had developed a novel graphene-based virucidal coating with 99% effectiveness against COVID-19. The company received test results on its proprietary, virucidal graphene-based coating formulation from Western University's ImPaKT facility Biosafety Level 3 laboratory. Two graphene-based coating samples at different concentrations were applied to N95 mask filtration media and then exposed to the SARS-CoV-2 virus that causes COVID-19 and tested for antiviral properties in accordance with ISO 18184:2019. Very significant virucidal activity was recorded and reported, achieving 99% inactivation of the virus for both samples in three separate tests each and verified through a second round of testing. Of significance, the antiviral effect of the second round of testing was on material that had been prepared 35 days earlier demonstrating the ongoing virucidal activity of ZEN's proprietary coating.

At this time, ZEN also reported that it was developing plans to bring this novel virucidal coating to commercial production including working with regulatory authorities and government agencies to fast track this product to Canadian and global markets to help the fight against the Coronavirus pandemic. ZEN also expanded the testing of its graphene-based coating formulation to include pathogenic bacteria and fungi.

On September 28, 2020, ZEN announced that the University of Guelph had filed a provisional patent regarding an electrochemical exfoliation (ECE) process to produce graphene oxide (GO) from Albany Pure™ Graphite. As reported in the November 14, 2019 news release, ZEN had signed an 18-month exclusive initial option agreement with Guelph for intellectual property regarding the ECE process that was being developed by Prof. Aicheng Chen and his group. The current exclusive global license agreement with Guelph formalizes and extends this initial option agreement which now has no expiry providing that all agreed payments continue to be made on an annual basis.

Additionally, ZEN continued to work closely with Prof. Chen and his team to optimize and scale-up the ECE process to produce GO from its unique precursor Albany Pure™ Graphite through the NGen grant that was awarded in July 2020. This novel process was designed to be scalable, low cost, low energy, and environmentally friendly to produce high quality, few-layer graphene oxide at ZEN's Guelph facility.

ZEN reported that it could also produce GO through a proprietary chemical method which was filed as part of the virucidal coating provisional patent. This novel method, which was tested at bench scale, takes advantage of ZEN's unique Albany Pure™ Graphite and has several advantages over the improved Hummers' method as it uses significantly less chemical reagents and no phosphoric acid. In addition, ZEN indicated that it would be moving rapidly towards optimization, production scale-up and commercialization of its graphene-based coating which has attracted significant interest since its 99% virucidal activity against COVID-19 was announced on September 22, 2020.

Finally, on September 30, 2020, ZEN reported that the Naval Material Technology Management (NMTM) section of the Royal Canadian Navy (RCN) had partnered with ZEN and Evercloak Inc. (Evercloak) as a testing organization, and agreed to provide in-kind donations of test services from the Naval Engineering Test Establishment (NETE). The tests will compare the efficiency of an HVAC unit produced with the Evercloak dehumidification membrane technology to the incumbent HVAC system that is currently in use on the RCN's Halifax-class frigates.

Evercloak is currently evaluating the advantages of its dehumidification membrane technology against the current dehumidification system used by the RCN. Based on lab testing and modelling, Evercloak estimates up

to 75% energy savings and anticipates that the equipment will have a smaller footprint and also require minimal maintenance as there will be fewer parts to replace. As reported in ZEN's July 9, 2020 news release, Evercloak and ZEN were awarded $125,000 each as part of a Next Generation Manufacturing Canada (NGen) Project which will support the scale up of graphene oxide (GO) production by ZEN to supply GO to Evercloak for their scale up and optimization activities.

On October 15, 2020, ZEN announced that it had signed a new research collaboration agreement with the Deutsches Zentrum für Luft- und Raumfahrt ("DLR", the German Aerospace Center) to investigate the use of Albany Pure™ graphene-based nanomaterials in the fabrication of novel carbon aerogel composites. The goal of this collaborative research project titled, "Development of Innovative Composites based on Carbon Aerogels", is to develop electrode materials for new generation batteries and will build on the collaboration between ZEN, DLR and Dr. Lukas Bichler at the University of British Columbia-Okanagan Campus (UBC-O) that was previously reported on October 15, 2018 and November 1, 2019.

Significantly, on November 9, 2020, ZEN announced that it had signed a binding letter of intent (LOI) with Trebor Rx Corp. (Trebor), a Canadian personal protective equipment mask manufacturer with an initial production facility located in Collingwood, Ontario. This binding LOI included the initial purchase of ZEN's patent pending graphene-based viricidal coating for a minimum of 100 million masks/filters with pricing of these mask/filters being variable based on a number of factors. This initial minimum order is for the first year and is subject to Health Canada approvals.

Trebor has developed a new standard of N95 mask, its patent pending Pro+ Respirator Mask (Pro+). The Pro+ mask, combined with ZEN's viricidal coating, will set a new standard of protection while solving problems of costs, comfort, and medical waste. The Pro+ is both reusable and 99% recyclable making it one of the best environmental choices. Trebor will also be offering a 3-ply surgical mask with ZEN's proven viricidal protection.

On November 12, 2020, ZEN announced that it had signed a three-year lease with an option for another three years on 25,680 square feet of newly built B.1 industrial zoning space in Guelph, Ontario. The new space will become ZEN's manufacturing facility and corporate headquarters. ZEN reported that engineering work plus the purchase of the equipment required to produce ZEN's graphene-based viricidal coating at commercial scale is ongoing. Initial production is expected to commence during Q4 2020 for incorporation into masks, other PPE and for HVAC filters and prefilters.

On November 30, 2020, ZEN announced that it has purchased approximately 200 kg of Graphene Oxide (GO), a key ingredient in the manufacturing of ZEN's patent-pending graphene based viricidal coating. Furthermore, the company negotiated terms to purchase additional GO by the tonne commencing in January 2021. This Purchase Agreement will permit ZEN to fulfill its obligations under the previously announced binding letter of intent signed with Trebor Rx Corp., and will also provide additional supply capacity for ZEN's viricidal coating in the PPE and HVAC filtration markets.

On December 7, 2020, the Company, in partnership with Professor Mohammad Arjmand, announced the award of a $780,000 Alliance Grant ($480,000 from the Natural Sciences and Engineering Research Council of Canada (NSERC) and $300,000 from a combination of cash and in kind contributions from ZEN). Alliance Grants are awarded through a competitive peer review process, and this proposal, titled "Synthesis of Graphene Nanomaterials and Development of Their Multifunctional Polymer Nanocomposites", is ZEN's highest single monetary grant award from NSERC to date and supports NSERC's growing interest in nanomaterials.

On December 22, 2020, the Company announced that it had developed a potential graphene-based antibiotic, antiviral and antifungal compound. Test results from the University Health Network/Mount Sinai Hospital Department of Microbiology in Toronto indicated that ZEN's patent pending formulation could be a medical breakthrough 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. Significantly,

the Company also reported that it had filed its third provisional patent on these graphene-based compounds.

On December 29, 2020, the Company provided an update with respect to its cytotoxicity testing of ZEN's graphene-based antibiotic, anti-viral and antifungal compound. The Company successfully completed Phase 1 of the range finding study where animals were first dosed at 1000 mg/kg of graphene compound with no apparent negative impacts. Based on the initial results, a second set of animals was given a dose of 2000 mg/kg. All animals at both dose levels survived and appeared normal during the post observation period. Additionally, there were no gross findings at necropsy for these animals. For reference, the Minimum Inhibitory Concentration of the Company's graphene compound that proved to be 99.9% effective against both gram-positive and gram-negative bacteria was many thousand times lower than the doses in this Phase 1 study. In addition, the Company announced that it had received results from the latest round of testing of its proprietary, graphene-based coating formulation at Western University's ImPaKT facility Biosafety Level 3 laboratory in London, Ontario. Testing per the same protocol as earlier testing in accordance with ISO 18184:2019 (Textiles - Determination of Antiviral Activity of Textile Products) demonstrated that polypropylene mask material, treated with the Company's coating was still 98% effective against COVID-19 at 108 days. The Company also received test results for its proprietary, graphene-based coating formulation at McMaster University's Centre for Microbial Chemical Biology in Hamilton, Ontario. Testing was performed in accordance with ISO 20743:2013 (Textiles - Determination of Antibacterial Activity of Textile Products) with typical polypropylene mask material coated with ZEN's viricidal coating and exposed to 20 ml of both Escherichia coli and Staphylococcus aureus (a gram-negative and gram-positive strain of bacteria). Each test had three repeats and three controls to ensure accurate baselines. The Company's novel coating achieved greater than 99% efficacy against both gram-positive and gram-negative bacteria, confirming its antibacterial properties in addition to previous proven viricidal properties.

ZEN's graphene R&D, and project development activities for 2021 are summarized below:

On January 13, 2021, announced the following related to its proprietary, graphene-based coating that is 99.9% effective against aerobic bacteria (gram-positive and gram-negative), fungal and viral activity, including COVID-19:

- Confirmation from a major Canadian Certification company that filter material flow rates and pressure drop were not affected by the application of the coating
- Confirmation from The BIG-nano Corporation that treated mask meltblown polypropylene mask material achieved excellent dispersion and coverage, and the coating did not block fiber pores
- Both findings helped validate that ZEN's coating does not inhibit breathability in polypropylene mask material or flow rates in air filtration media

On January 18, 2021, the Company announced that it had entered into an agreement with Trebor for the application of its antimicrobial coating on nitrile gloves sourced or produced by Trebor (the "Trebor Agreement"). In connection with the Trebor Agreement, the Company will provide Trebor with a distribution agreement for Canada, USA, and Mexico and Trebor agreed to use the Company's graphene-based coating on all gloves sold and will pay the Company a royalty per glove coated, with a minimum first year guarantee of 100 million gloves.

On February 4, 2021, ZEN announced very promising initial Phase 2 results of the 7-day repeated dose safety testing from Nucro Technics for potential human pharmaceutical use of its graphene-based compound.

In this repeated dose study, groups of three male and three female rats were dosed with ZEN's patent-pending antimicrobial compound was administered orally close to the throat area of the rats daily for 7 days at dose levels of 50 mg/kg, 250 mg/kg, or 1,000 mg/kg. Based on the clinical observations, food consumption, body weights, blood clinical pathology and post-mortem examination, there were no test article related findings of concern in any of the dose levels evaluated in this study. Tissues from the main organs were being prepared for histopathology examination and these results will be included with the final report. Pending final histopathology results, ZEN is also preparing to initiate a pivotal 14-day repeated dose toxicity safety study conducted at Nucro-Technics Laboratories in accordance with Good Laboratory Practice regulations to support Phase 1 human clinical trials.

On March 2, 2021, ZEN announced successful phase 2 results from cytotoxicity testing of its graphene-based compound. Nucro–Technics recorded no adverse effects after seven days of repeated dosing with concentrations many thousands of times higher than those found to be 99.9% effective against viruses, bacteria, and fungi. Based on the encouraging results, ZEN reported that it would initiate a 14-day repeated dose toxicity safety preclinical study by Nucro-Technics in accordance with Good Laboratory Practice regulations to support Phase 1 human clinical trials.

On March 3, 2021, ZEN announced that it had been advised by Trebor Rx Corp. (Trebor) that their surgical masks with ZEN's antimicrobial coating have passed Health Canada testing requirements as a level 2 medical device. The coated masks were tested at a Health Canada approved facility in line with American Society for Testing and Materials (ASTM) standards.

On March 17, 2021, ZEN reported successful testing results of its patent-pending graphene-based compound against four gram-positive and nine gram-negative bacteria with antimicrobial-resistance (AMR), including multidrug-resistant variants like methicillin-resistant staphylococcus aureus (MRSA). Testing was completed under the direction of Dr. Tony Mazzulli, MD, FRCPC, FACP, Microbiologist-in-Chief and Infectious Disease Specialist at University Health Network/Mount Sinai Hospital, following initial breakthrough results demonstrating that the compound is 99.9% effective against viruses, bacteria, and fungi. With the goal of targeting pathogens in humans, the results were even more significant considering the extremely low minimum inhibitory concentration (MIC) and the excellent safety profile established during Nucro-Technics' seven-day repeated dose study reported in early March 2021.

On March 24, 2021, ZEN announced its preliminary antimicrobial coating production plan to meet the strong demand in the personal protective equipment (PPE) and air filtration markets. ZEN successfully transitioned from bench scale to pilot scale and started investing in additional pilot-scale capacity to help meet immediate demands. This intermediate step was implemented to significantly increased ZEN's capacity to supply the demand from Trebor RX and provide product for new customers while the design and construction of ZEN's industrial-scale expansion continues with the engineering firm, Bantrel. At the time, ZEN anticipated the following timing and production estimates as expressed in terms of number of coated disposable masks for 2021:

Timing	**Monthly Coating Capacity**	
March	Pilot Scale	4 million masks
June	Multiple Pilot Scale	32 million masks
November	Industrial Scale	800 million masks

Subsequent Events

On April 5, 2021, ZEN reported that it was aware of the statements from Health Canada (HC) regarding masks containing graphene and was aligned and supportive of the steps taken to regulate the use of graphene and remove products that are unsafe for the public. ZEN added that it has had comprehensive testing performed on its antimicrobial coating and demonstrated that it can provide an added level of protection for front-line workers and the public. Most importantly, Nucro-Technics (a world-renowned testing facility) had performed extensive testing for cytotoxicity, irritation and skin sensitization and shown that its product is safe. Additionally, ZEN's partner, Trebor Rx Corp. (Trebor), had also completed considerable testing on masks and had successfully passed Canadian requirements as a level 1 Medical Device for ASTM Level 1,2 and very recently, level 3, the highest level for surgical masks.

On April 8, 2021, the Company completed a private placement in which a total of 1,735,199 units were issued at $2.50 per unit for gross proceeds of $4,337,998. Each unit consisted of one common share and one-half of one common share purchase warrant with each whole warrant exercisable at $3.00 for a period of two years. Unit issue costs associated with this private placement totaled $82,255 of which $38,979 was settled through the issuance of 15,592 shares.

On April 13, 2021, 100,000 stock options were issued to a number of employees and consultants. The stock options have an exercise price of $1.76 per share. The options granted to the employees expire on April 13, 2026 and have a vesting period as follows: 1/3 at April 13, 2021; 1/3 at April 13, 2022; 1/3 at April 13, 2023. The options grants to the consultants expire on April 13, 2023 and have a vesting period as follows: 100% on August 13, 2021.

Additionally, on April 13, 2021, the Company provided an update on the following items:
Health Canada (HC) Submission – Additional information requested by Health Canada following the April 2 advisory had been submitted by ZEN and Trebor RX Corp (Trebor).
Branding – Trademark application was submitted and that ZEN will begin branding and marketing of its proprietary antimicrobial graphene-based coating under the brand name 'ZENGuard'™.
Safety Testing – Final results received from Nucro-Technics on skin irritation and sensitivity confirmed ZENGuard™ did not lead to any irritation or sensitivity.
ZENGuard™ Production – ZEN remains committed to previously disclosed timeline and capacity estimates; Senior Chemical Engineer hired as Plant Manager overseeing capacity ramp-up and ongoing ZENGuard™ production.

On May 3, 2021, ZEN announced that it will begin an ingestion Good Laboratory Practice (GLP) compliant safety study of its patent-pending, graphene-based compound following successful testing against Clostridium Difficile (C. Difficile) at the University of Manitoba under the supervision of Dr. George Zhanel, Professor, Department of Medical Microbiology and Infectious Disease and Director of the Canadian Antimicrobial Resistance Alliance. ZEN's compound was successfully tested against Vancomycin Resistant Enterococcus (VRE) previously by Dr. Tony Mazzulli, MD, FRCPC, Chief Microbiologist at Mount Sinai Hospital. VRE was one of the 13 forms of bacteria with antimicrobial resistance that ZEN's compound was shown to be effective against as reported March 17, 2021. C. Difficile and VRE can infect the digestive tract and have both proven to be very challenging and costly to treat.

Finally, on June 1, 2021, ZEN announced that it had developed a stable diesel fuel additive, which increased the performance of diesel fuel by up to 10% in initial testing. These tremendous early results can be improved further through additional optimization work. ZEN also reported that it had filed a provisional patent for this graphene-based fuel additive technology.

On June 30, 2021, 150,000 stock options were issued to a consultant. The stock options have an exercise price of $3.50 per share. The options granted to the consultant expire on June 30, 2024 and have a vesting period as follows: 1/3 at June 30, 2021; 1/3 at June 30, 2022; 1/3 at June 30, 2023.

Subsequent to the year ended March 31, 2021, a total of 390,000 stock options and 619,057 share purchase warrants were exercised at prices ranging from $0.40 to $0.80 per option/warrant resulting in proceeds of $738,783 to the Company. Of the options and warrants exercised subsequent to the year ended March 31, 2021, 250,000 stock options and 68,559 share purchase warrants were exercised by directors and other members of key management personnel for proceeds of $234,847.

Selected Financial Information

The following table sets forth selected financial information with respect to the Corporation as at and for the years ended March 31, 2021 and 2020. The selected financial information has been derived from the audited financial statements of the Corporation for the financial years indicated. The following should be read in conjunction with the said financial statements and related notes thereto.

	Year ended March 31,	Year ended March 31,
	2021 (Audited)	2020 (Audited)
Total Other Income	$ 453,885	$ 136,998
Net Loss	$(3,868,650)	$(1,540,877)
# Shares Outstanding	86,199,849	80,405,791
Net Loss per Share (Basic)	$(0.05)	$(0.02)
Net Loss per Share (Diluted)	$(0.05)	$(0.02)
Total Assets	$ 30,250,328	$ 26,238,658
Total Financial Liabilities	$ 2,788,040	$ 527,575
Total Equity	$ 27,462,288	$ 25,711,083

Summary of Quarterly Results

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

	Mar. 31, 2021	Dec. 31, 2020	Sep. 30, 2020	Jun. 30, 2020	Mar. 31, 2020	Dec. 31, 2019	Sep. 30, 2019	Jun. 30, 2019
Other Income	$156,279	$133,907	$77,344	$86,355	$(233,999)	$367,932	$769	$2,296
Net Loss	$1,229,067	$1,848,427	$434,829	$356,327	$636,146	$157,474	$367,856	$379,401
Net Loss per Share (Basic)	$0.01	$0.02	$0.01	$0.00	$0.01	$0.00	$0.00	$0.01
Net Loss per Share (Diluted)	$0.01	$0.02	$0.01	$0.00	$0.01	$0.00	$0.00	$0.01

Liquidity and Capital Resources

As at March 31, 2021, the Corporation had working capital of $879,211 (2020 - $546,497) and cash of $3,091,549 (2020 - $805,947). The Corporation funded operations during the year ended March 31, 2021 through the net proceeds of units issued and stock options and warrants exercised as well as the use of existing cash.

The Corporation will need to raise additional funding to finance future research and development. The availability of equity capital, and the price at which additional equity could be issued, is dependent upon the success of the Corporation's activities, and upon the state of the capital markets generally. Additional financing may not be available on terms favourable to the Corporation or at all. If the Corporation does not receive future financing, it may not be possible for the Corporation to advance the graphene market development.

Off-Balance Sheet Arrangements

There are currently no off-balance sheet arrangements which could have an effect on current or future results or operations, or the financial condition of the Corporation.

Transactions with Related Parties

The remuneration of directors and other members of key management personnel during the years ended March 31, 2021 and 2020 were as follows:

a) Short-term benefits - $652,167 (2020 - $493,064)
b) Share-based payments - $1,714,944 (2020 - $237,415)

Included in the short-term benefits figure above is an amount of $180,000 (2020 - $183,798) which has been recorded as an increase to the exploration and evaluation assets.

As part of the private placements issued during the year ended March 31, 2020 as disclosed in Note 6(a) of the audited financial statements, Officers and Directors of the Company purchased 1,014,286 units for gross proceeds of $355,000.

In accordance with IAS 24, key management personnel are those persons having authority and responsibility for planning, directing and controlling the activities of the Corporation directly or indirectly, including any directors (executive and non-executive) of the Corporation.

The remuneration of directors and key executives is determined by the board of directors having regard to the performance of individuals and market trends.

Current and Future Changes in Accounting Policy

Statement of Compliance

The audited financial statements, including comparatives for the year ended March 31, 2021, have been prepared using accounting policies in compliance with International Financial Reporting Standards ("IFRS") as issued by the International Accounting Standards Board ("IASB").

Future Accounting Changes

Certain pronouncements were issued by the IASB or the International Financial Reporting Interpretations Committee ("IFRIC") that are mandatory for accounting periods beginning on or after April 1, 2021 or later periods. Many are not applicable or do not have a significant impact to the Company and have been excluded.

Financial Instruments and Other Instruments

The Corporation's financial instruments consist of cash, amounts and other receivables, and accounts payable and accrued liabilities. Unless otherwise noted, the Corporation does not expect to be exposed to significant interest, currency or credit risks arising from these financial instruments. The Corporation estimates that the fair value of these financial instruments approximate carrying values.

Financial instruments as at March 31, 2021 included cash and amounts and other receivables, which are classified as loans and receivables and are measured at amortized cost. Accounts payable and accrued liabilities are classified as other financial liabilities, which are measured at amortized cost. As at March 31, 2021, the carrying and fair value amounts of the Corporation's financial instruments are approximately the same.

As at March 31, 2021, the Company does not have any financial instruments recorded at fair value and that require classification within the fair value hierarchy.

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

Disclosure of Outstanding Share Data

The Corporation is authorized to issue an unlimited number of shares, of which 86,199,849 (2020 - 80,405,791) shares were issued and outstanding as fully paid and non-assessable as at March 31, 2021. Also, 3,393,965 warrants (2020 - 3,293,976) were outstanding as at March 31, 2021.

Refer to Note 6(c) of the audited financial statements for details regarding stock options issued and exercisable as at March 31, 2021.

As at July 26, 2021, the Corporation had 89,001,363 shares which were issued and outstanding as fully paid and non-assessable. The Corporation also had 3,634,173 warrants and 6,848,334 stock options outstanding as at July 26, 2021.

Risks and Uncertainties

The Corporation's risk exposures and the impact on the Corporation's financial instruments are summarized below. As at March 31, 2021, there had been no changes in the risks, objectives, policies and procedures from the previous period.

Credit risk

As at March 31, 2021, the Corporation's credit risk was primarily attributable to cash and amounts and other receivables. The Corporation has no significant concentration of credit risk arising from operations. Financial instruments included in accounts and other receivables consisted of loan receivable from a related party. The Corporation'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.

Liquidity risk

The Corporation's approach to managing liquidity risk is to ensure that it will have sufficient liquidity to meet liabilities when due. As of March 31, 2021, the Corporation had a cash balance of $3,091,549 (2020 - $805,947) to settle current liabilities of $2,506,167 (2020 - $527,575). The Corporation's ability to continue operations and fund its exploration property expenditures is dependent on management's ability to secure additional financing. Management is continuing to pursue various financing initiatives in order to provide sufficient cash flow to finance operations as well as funding its exploration expenditures. All of the Corporation's financial liabilities have contractual maturities of less than 30 days and are subject to normal trade terms.

Interest rate risk

The Corporation has cash balances. The Corporation's current policy is to invest excess cash in investment-grade short-term deposit certificates issued by its banking institutions. The Corporation periodically monitors the investments it makes and is satisfied with the credit ratings of its banks. The Corporation closely monitors interest rates to determine the appropriate course of action to be taken by the Corporation.

Price risk

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

Exploration risk

Mineral exploration and development involve a high degree of risk and few projects are ultimately developed into producing mines. There is no assurance that the Corporation's future exploration and development activities will result in the definition of a body of commercial ore. Whether an ore body will be commercially viable depends on a number of factors including the particular attributes of the deposit such as size, grade and proximity to infrastructure, as well as mineral prices and government regulations, including environmental regulations.

Financial Capability and Additional Financing

The Corporation's development programs will require additional funds. The only sources of future funds presently available to the Corporation are the sale of additional equity capital or the entering into of joint venture arrangements or other strategic alliances in which the funding sources could become entitled to an interest in the properties or the projects. The Corporation's capital resources are largely determined by the strength of the junior resource market and by the status of the Corporation's projects in relation to these markets, and its ability to compete for investor support of its projects.

There is no assurance that the Corporation will be successful in raising sufficient funds to meet its obligations or to complete all of the currently proposed exploration programs. If the Corporation does not raise the necessary capital to meet its obligations under current contractual obligations, the Corporation may have to forfeit its interest in properties or prospects earned or assumed under such contracts. In addition, if the Corporation does not raise the funds to complete the currently proposed exploration programs, the viability of the Corporation could be jeopardized.

Permits and Government Regulation

Although the Corporation believes it has all of the necessary permits to carry out the proposed exploration programs, the operations of the Corporation may require licenses and permits from time to time from various governmental authorities to carry out exploration and development at its projects. Obtaining permits can be a complex, time-consuming process. There can be no assurance that the Corporation 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 Corporation 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 Corporation will have the resources or expertise to meet its obligations under such licenses and permits.

The mineral exploration activities of the Corporation are subject to various laws governing prospecting, development, production, taxes, labour standards, occupational health, mine safety, waste disposal, toxic substances and other matters. Mining and exploration activities are also subject to various laws and regulations relating to the protection of the environment, historical and archaeological sites and endangered and protected species of plants and animals. Although the exploration activities of the Corporation are currently carried out in material compliance with all applicable rules and regulations, no assurance can be given that new rules and regulations will not be enacted or that existing rules and regulations will not be applied in a manner which could limit or curtail exploration or development. New rules and regulations may be enacted or existing rules and regulations may be applied to the operations and activities of the Corporation and could have a substantial adverse impact on the Corporation.

Fluctuating Prices

The profitability of the Corporation's operations will be dependent upon the market price of mineral commodities. Mineral prices fluctuate widely and are affected by numerous factors beyond the control of the Corporation. The level of interest rates, rate of inflation, world supply of mineral commodities, consumption patterns, sales of nickel and copper, forward sales by producers, production, industrial and consumer demand, speculative activities and stability of exchange rates can all cause significant fluctuations in prices. Such external economic factors are in turn influenced by changes in international investment patterns, monetary systems and political developments. The prices of mineral commodities have fluctuated widely in recent years. Current and future price declines could cause commercial production to be impracticable. The prices of commodities are affected by numerous factors beyond the Corporation's control.

Risks Associated with NI 43-101 Estimates and Technical Reports
The figures for resources presented herein, including the anticipated tonnages and grades that may be achieved or the indicated level of recovery that may be realized, are estimates and no assurances can be given as to their accuracy. Such estimates are, in large part, based on interpretations of geological data obtained from drill holes and other sampling techniques. Actual mineralization or formations may be different from those predicted. It may also take many years from the initial phase of drilling before production is possible, and during that time the economic feasibility of exploiting a deposit may change.

Few properties that are explored are ultimately developed into producing mines. Major expenses may be required to establish ore reserves by drilling, to develop metallurgical processes, to extract the metals from the ore and to construct mining and processing facilities at a site. There is no guarantee that any property on which the Company intends to incur explorations expenditures or in which it has mining interests will ever reach the stage of commercial production.

Environmental Regulation
The Corporation's activities are 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 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 the Corporation to acquire permits and other authorizations for certain activities. There can be no assurance that the Corporation 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 the Corporation's operations.

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

Proposed Transactions

As is typical of the mineral exploration and development industry, the Corporation is continually reviewing potential merger, acquisition, investment and joint venture transactions and opportunities that could enhance shareholder value. At present, there are no transactions being contemplated by management or the board that would affect the financial condition, results of operations and cash flows of any asset of the Corporation.

Employment Agreements

The Company has renewed the consulting agreement with its Vice-President Exploration and Chief Geologist dated July 1, 2018, and the individual was also promoted to company Vice President. Subsequently, on September 14, 2018, the individual was promoted to the position of company President and Chief Operating Officer. As of February 4, 2020, the individual relinquished the role of Chief Operating Officer. The current salary level for the individual pursuant to the employment agreement will remain at $180,000 annually.

The Corporation has an employment agreement with its Chief Executive Officer dated August 1, 2018. The current salary level for the individual pursuant to the employment agreement is $150,000 annually.

The Corporation has an employment agreement with its Chief Financial Officer dated January 15, 2019. The

current salary level for the individual pursuant to the employment agreement is $80,000 annually.

Exploration Agreement

On July 13, 2011, the Corporation entered into an agreement with Constance Lake First Nation ("CLFN") governing the relationship between them concerning the Corporation's exploration on traditional lands of CLFN.

Cost of Implementation Committee

On a yearly basis, commencing on the date that the implementation committee is formed and continuing for the following twelve (12) months, the Corporation shall make a total contribution of $22,000, and in years following the year in which this agreement is executed, an additional amount equivalent to the increase in the Ontario consumer price index for the preceding year, to pay: the reasonable expenses of the Corporation's implementation committee members; the reasonable costs of an archaeologist for any archaeological assessments.

Cost of Annual Gathering

On an annual basis, $1,200, and in years following the year in which this agreement is executed, an additional amount equivalent to the increase in the Ontario consumer price index for the preceding year, for CLFN and the Corporation to have a community "feast" and conduct an information session with CLFN members about the exploration, this agreement and any issues pertaining to this agreement's implementation.

On September 24, 2018 the Company signed a new Memorandum of Understanding ("MOU") with CLFN, under which a project partnership structure would be created in support of the development of the Albany Graphite Project (the "Project").

This new MOU reflects the transition of the Project from the exploration to the development stage. The original 2011 Exploration Agreement continues to be in effect until a formal agreement on a new project partnership structure is in place. This new agreement provides for more flexibility to accommodate alternative business models for the Project as it progresses toward becoming a graphene nano-materials technology business built on the unique properties of the Albany Graphite product. Under the agreement the parties have committed to creating a project partnership that will provide for: shared governance, decision-making and support for community engagement for the Project; shared objectives and expectations for the Project; and, shared economic expectations and benefits for the Project.

More recently on March 4, 2021, the Company announced further steps in collaboration with Constance Lake First Nation (CLFN) led by Chief Rick Allen. Pursuant to the July 13, 2011, Exploration Agreement, the July 19, 2018, Memorandum of Understanding and subsequent September 24, 2018 amendment, both parties signed an Implementation Agreement (IA).

The IA sets out the governance, roles, responsibilities, and activities for establishing the Project Partnership Structure (PPS) to advance the Albany Graphite development (Development) and the relationship between ZEN and CLFN. The PPS will establish a framework and describe a structure to govern the long-term partnership between CLFN and ZEN to advance the Development. Building on our cooperative and respectful relationship, recognizing the importance of CLFN's stewardship of the land and the shared benefits of the Development, the PPS aims to establish a shared governance committee structure for identified areas of mutual interest relating to the Development.

The IA represents an opportunity to accelerate the development of the globally unique Albany Graphite deposit. It also creates a working committee drawn from members of CLFN and ZEN to engage around matters related

to project development, including considerations such as environmental assessment, provincial and federal government liaison, community benefits, traditional knowledge, informed consent, economic development, jobs, human capital, and ultimately, the impact of the Development. The working committee will hold regularly scheduled meetings conducted in person or remotely and provides the forum for raising issues and respectfully discussing resolutions to mutually satisfactory outcomes.

Additionally during 2020, the Company contributed over $25,000 to the renovation of the sweat lodge at CLFN's Eagle's Earth Treatment Centre to enable its use year round.

Other Commitments

As part of previous flow-through share issuances, the Company is committed to incurring approximately $15,000 in qualifying exploration and evaluation expenditures on or before December 31, 2021.

Contingent Liabilities

In September 2018, the Company received a statement of claim from a former employee. The Company is in the process of defending the claim, but views the claim as unmeritorious. On March 24, 2020, the Company commenced an action claim against the former employee for relief relating to contracts and transactions between that employee and the Company, seeking to set aside those agreements and, where applicable, seeking disgorgement of unspecified amounts relating to benefits obtained under those agreements.

Critical Accounting Estimates

A detailed summary of all of the Corporation's significant accounting policies is included in Note 2 to the March 31, 2021 audited annual financial statements.

Internal Controls over Financial Reporting

Management is responsible for the design of internal controls over financial reporting to provide reasonable assurance regarding the reliability of financial reporting and the preparation of the financial statements in accordance with accounting principles generally accepted in Canada. Based on regular reviews of its internal control procedures during and at the end of the period covered by this MD&A, management believes its internal controls and procedures are effective in providing reasonable assurance that financial information is recorded, processed, summarized and reported in a timely manner.

Changes to Internal Control over Financial Reporting

There have been no significant changes to the Corporation's internal controls over financial reporting that occurred during the year ended March 31, 2021 that have materially affected, or are reasonably likely to materially affect, the Corporation's internal control over financial reporting.

Disclosure Controls

Management is also responsible for the design and effectiveness of disclosure controls and procedures to provide reasonable assurance that material information related to the Corporation is made known to the Corporation's certifying officers. The Corporation's Chief Executive Officer and Chief Financial Officer have each evaluated the effectiveness of the Corporation's disclosure controls and procedures as of March 31, 2021 and have concluded that these controls and procedures are effective in providing reasonable assurance that material information relating to the Corporation is made known to them by others within the Corporation.