NANO ONE MATERIALS CORP.

INTERIM MANAGEMENT DISCUSSION

AND

ANALYSIS – QUARTERLY HIGHLIGHTS

FOR THE PERIOD ENDED SEPTEMBER 30, 2019

INTERIM MANAGEMENT DISCUSSION AND ANALYSIS – QUARTERLY HIGHLIGHTS

The following Interim Management Discussion and Analysis – Quarterly Highlights ("Quarterly Highlights") of Nano One Materials Corp. ("Nano One" or the "Company") has been prepared to provide material updates to the business operations, liquidity and capital resources of the Company since its last management discussion & analysis, being the Management Discussion & Analysis ("Annual MD&A") for the fiscal year ended December 31, 2018. This Quarterly Highlight does not provide a general update to the Annual MD&A or reflect any non-material events since the date of the Annual MD&A.

This Quarterly Highlights has been prepared in compliance with the requirements of section 2.2.1 of Form 51-102F1, by National Instrument 51-102 – Continuous Disclosure Obligations. This Quarterly Highlights should be read in conjunction with the Annual MD&A, the audited financial statements and the related notes for the years ended December 31, 2018, and 2017 and the unaudited condensed interim financial statements and the related notes for the nine months ended September 30, 2019. In the opinion of management, all adjustments (which consist only of normal recurring adjustments) considered necessary for a fair presentation have been included. The results for the nine months ended September 30, 2019, are not necessarily indicative of the results that may be expected for any future period. The information contained herein is presented as at September 30, 2019 (the "Report Date"), unless otherwise indicated.

The unaudited condensed interim financial statements for the six months ended September 30, 2019, including comparatives, have been prepared in accordance with International Accounts Standards ("IAS") 34, "Interim Financial Reporting", using accounting policies consistent with International Financial Reporting Standards ("IFRS") as issued by the International Accounting Standards Board ("IASB") and Interpretations issued by the International Financial Reporting Interpretations Committee ("IFRIC").

For the purposes of preparing this Quarterly Highlights, management, in conjunction with the Board of Directors, considers the materiality of information. Information is considered material if: (i) such information results in, or would reasonably be expected to result in, a significant change in the market price or value of Nano One's common shares; or (ii) there is a substantial likelihood that a reasonable investor would consider it important in making an investment decision; or (iii) it would significantly alter the total mix of information available to investors. Management, in conjunction with the Board of Directors, evaluates materiality with reference to all relevant circumstances, including potential market sensitivity.

Additional information relevant to the Company's activities can be found on SEDAR at www.sedar.com and the Company's website at www.nanoone.ca. All dollar amounts included therein and in the following Quarterly Highlights are in Canadian dollars, the reporting and functional currency of the Company, except where noted.

FORWARD-LOOKING STATEMENTS

Certain statements contained in this Quarterly Highlights may constitute "forward-looking statements". Such term is defined in applicable securities laws. The forward-looking information includes, without limitation, the success of research and development activities and other similar statements concerning anticipated future events, conditions or results that are not historical facts. These statements reflect management's current estimates, beliefs, intentions and expectations; they are not guarantees of future performance. The Company cautions that all forward-looking information is inherently uncertain and that actual performance may be affected by a number of material factors, many of which are beyond the Company's control. Such factors include, among others, risks relating to research and development; the Company's intellectual property applications being approved, the Company's ability to protect its proprietary rights from unauthorized use or disclosure, the ability of the Company to obtain additional financing; the Company's limited operating history; the need to comply with environmental and governmental regulations; fluctuations in currency exchange rates; operating hazards and risks; competition; and other risks and uncertainties. Although the Company has attempted to identify important factors that could cause actual actions, events or results to differ materially from those described in forward-looking information, there may be other factors that cause actions, events or results not to be as anticipated, estimated or intended. Accordingly, actual future events, conditions and results may differ materially from the

estimates, beliefs, intentions and expectations expressed or implied in the forward-looking information. All statements are made as of the Report Date and, except as required by law, the Company is under no obligation to update or alter any forward-looking information.

OVERVIEW

The Company was incorporated on November 5, 1987. The Company is engaged in developing novel, scalable and low-cost processing technology for the production of high performance nano-structured materials. Nano One's mission is to establish its patent pending technology as a leading platform for the global production of a new generation of nano-structured composite materials. Nano One is building a portfolio of intellectual property and technology expertise for applications in markets that include energy storage, specialty ceramics, pharmaceutical, semiconductors, aerospace, dental, catalysts and communications. The technology simplifies the assembly of complex formulations of organic and inorganic ceramic powders and is suited to growth markets where the commercialization of advanced materials is inhibited by costly and entrenched industrial fabrication methods. Nano One's first market is lithium-ion cathode materials in the energy storage sector, where its advantageous technology can bring sustainable differentiation and value in terms of cost reduction and/or performance enhancements to early adopters.

OVERALL PERFORMANCE

The company continues to receive non-dilutive and non-repayable grant money from a variety of Canadian Government funding sources. Additionally, this quarter the company received its first revenue from a purchase order in the amount of CDN $550,000 from a Global Auto OEM (Original Equipment Manufacturer). The company has now developed a strong international IP portfolio which continues to grow. The company's ability to ensure continuing operations is still dependent on its ability to obtain future purchase orders, government funding and financing.

Nano One's innovative processing technology can be used to produce materials used in a wide range of markets. Nano One's first addressable market is cathode materials for lithium-ion rechargeable batteries for electric vehicles (EV) and energy storage systems (ESS). There is growing demand in the lithium-ion battery market for more cost effective and higher performance energy storage solutions. Nano One is well positioned to address these needs with its patented and patent-pending technology and anticipates growth potential for the technology in many other materials markets beyond energy storage, including dental, catalysts, specialty ceramics, pharmaceutical, semiconductors, agriculture, aerospace and communications.

Nano One has developed a new process of producing high-performance cathode materials, which uses standard equipment and simple methods that are known to scale in a wide range of industrial applications. This new process can produce higher performance composite materials while using lower cost feedstock and simpler processing. Nano One's patented and patent-pending technology is a flexible manufacturing platform that enables lithium carbonate (or hydroxide) to be used as feedstock alongside other raw materials such as nickel, manganese, cobalt, iron, phosphate and aluminum. It is a water-based process operating at mild pH and temperature that forms the energy storing cathode materials used in lithium-ion batteries. The process can be configured to produce a range of different nanostructured materials and has the flexibility to shift with emerging and future battery market trends and a diverse range of other growth opportunities.

The process consists of three stages, and the major innovations lie in the first stage where a special mode of combining reactants controls crystal nucleation and growth of particles. Nucleation is the self-assembly of molecules into an organized structure. The desired nano-scale or superfine structure is formed in the first stage of the production cycle and eliminates many steps common to the incumbent industrial processes.

The underlying structure and morphology of the materials are preserved through a wide range of thermal processing steps, eliminating the need for long and repeated firings and indicative of robust and more durable material. The process produces materials with stable phase composition and high porosity, but which is configurable to meet a variety of energy density requirements.

The presence of nano-structures early in the process and before calcination (i.e. heating to high temperature) simplifies processing and is advantageous for material performance, process throughput, and scale-up. Characterization of the materials by electron microscope and x-ray characterizes the size, the composition and the kind of structure, providing evidence of a robust structure that withstands the rigors of drying and calcination and maintains the integrity of its advantageous structure through thousands of charge cycles.

Typically, synthesis of nanomaterials at the bench scale is performed in small quantities anywhere from milligrams to grams of material. Subsequent scale-up from these small quantities often leads to detrimental changes in thermodynamics (heat, temperature, energy, work) and reaction kinetics (reaction rates and chemical change). Consequently, the Company has designed, constructed and commissioned a bench scale and pilot scale reactors that emulate the thermodynamic and reaction kinetics expected in full-scale production of cathode materials.

On December 18, 2018, the Company announced that it had entered into a Joint Development Agreement with Saint-Gobain, a multi-billion Euro French multinational corporation, founded in 1665 that produce a wide variety of construction and high-performance materials for applications in automotive, aerospace, health and energy. The goal of the collaboration is to enhance high temperature processing of Nano One's lithium ion battery materials. This agreement formalizes innovative efforts that began in 2018 and the two companies will work in collaboration, under the joint development agreement, to enhance the thermal processing and performance of their respective materials.

On January 21, 2019, the Company entered into a Joint Development Agreement with Pulead Technology Industry. The objective of the collaboration with Pulead is to develop, evaluate and optimize scaled up production of Pulead's lithium iron phosphate (LFP) cathode materials using the Company's technology, for use in lithium ion batteries. Licensing and commercialization opportunities will also be explored as part of the collaboration.

On May 31st, 2019, the company was approved for $5 million in additional funding from Sustainable Development Technology Canada (SDTC) to support the company's "Scaling Advanced Battery Materials" project. The proceeds of this funding will be non-dilutive and non-repayable and distributed over 3 years in 5 payments. They will be directed at the expansion of Nano One's business and technical activities with its partners. The goals are to expand the laboratory, pilot plant and staffing to support the advancement of next generation lithium ion battery cathode materials, used in electric vehicles and renewable energy storage. It was also announced that Volkswagen Group Research had joined Nano One's consortium as an SDTC project contributor, along with previously announced consortium members Pulead Technology and Saint-Gobain.

On June 20th, 2019, the company received a purchase order in the amount of CDN$550,000 from a Global OEM (Original Equipment Manufacturer) to jointly evaluate processes and innovative cathode materials for high energy density lithium ion batteries in automotive applications. The project details and commercial terms are confidential. During the period ended September 30, 2019, the first milestone invoice of $81,847 was issued to the Global OEM and recorded as "other income".

Pilot Plant Project

In 2016, the Company, NORAM Engineering and Constructors Ltd. ("NORAM") and B.C. Research Inc. ("BCRI") entered into a collaboration agreement for the design, construction, and commissioning of a demonstration pilot production plant ("pilot plant"). The goal of the pilot plant was three-fold: (i) to simulate full-scale production of lithium-ion cathode materials, (ii) showcase the Company's patented technology and (iii) demonstrate the cost, scalability, performance, and novelty of the Company's technology to strategic industry players. The pilot plant is capable of producing hundreds (100's) of kilograms batches of various lithium mixed metal cathode materials that are strategically critical to batteries for electric vehicles, energy storage System (ESS) for the electrical grid, and consumer electronics. The procurement and construction phase of the pilot project began on June 1, 2016. The construction and commissioning of the pilot plant was completed in June 2017.

A scaled-up production of lithium-ion cathode materials that meets the Company's processing and battery capacity targets has been demonstrated. Analysis of the pilot scale process is consistent with the chemistry and operating parameters developed in the laboratory. Evaluations of the pilot produced cathode materials shows crystallinity, elemental composition and battery capacity in line with the Company's laboratory scale process and materials.

The pilot plant project was supported by the Government of Canada through grants of up to $2.08M from Sustainable Development Technology Canada ("SDTC") and up to $1.9M from the Automotive Supplier Innovation Program ("ASIP"), a program of Innovation, Science and Economic Development Canada ("ISED").

SDTC funds have been paid in installments over the three (3) phases of the project, namely: "build," "optimization" and "validation" with a 10% holdback awarded upon completion of the final milestone 3 reporting in mid-2019. The funds were dispersed at the beginning of each phase and are subject to the Company meeting milestones and having matching funds in place. To date, the Company has received three instalments totaling $1,873,167 for three phases of a lithium battery materials pilot plant project.

ASIP funds have also been applied to the three project phases described above with an additional phase 4 involving the validation of materials specific to the electric vehicle market. As of September 30, 2019, a total of $1,733,476 has been claimed and received.

During the period ended September 30, 2019, the Company received additional government grants for training and employment totaling $15,000 (2018 - $34,760).

In July 2018, the Company entered into a contribution agreement with the National Research Council of Canada's Industrial Research Assistance Program ("NRC – IRAP"). NRC - IRAP will support Nano One's project to develop Coatings for High Durability Lithium-ion battery cathodes and will contribute up to $349,000 in non-dilutive and non-repayable funds between August 1, 2018 and May 31, 2020. As of September 30, 2019, a total of $98,885 has been claimed.

During the period ending September 30th 2019, the Company received the final holdback portion of SDTC's financial contribution for the Pilot Plant Demonstration Project, totaling $208,130. Also, during the period ending September 30th 2019, the Company executed an additional Project Funding Agreement with SDTC and received an initial contribution of $973,814 as the first installment from SDTC for its "Scaling Advanced Battery Materials" project.

Technology

The electric vehicle industry is being driven partly by demands for longer range vehicles which require higher energy density lithium-ion batteries that are safe, reliable and cost-effective. These factors have increased the demand for cathode materials composed of higher nickel and lower cobalt content.

Nickel-rich cathode materials include nickel cobalt aluminate (NCA) and nickel-manganese cobalt oxide (NMC-532, 622 and 811 [Nb.: "NMC-XYZ," where X, Y, and Z refers to ratios of nickel, manganese, and cobalt, respectively]). These materials are expected to play an increasingly dominant role in the lithium-ion batteries used by major electric vehicle manufacturers.

Current industrial methods require higher cost lithium hydroxide as feedstock for these nickel-rich cathode materials. The flexibility of the Company's process enables the use of lithium feedstock in the form of either carbonate or hydroxide for the production of high-performance cathode materials which could reduce constraints on the supply of battery grade lithium by enabling new sources.

To date, the Company has demonstrated the synthesis of high energy cathode material for electrical vehicles with energy densities on par with industry standards. This demonstration underlines the opportunity of Nano One's technology to enable a wider range of lithium sources for the rapidly growing electric vehicle market and

supplements the Company's other opportunities in the space including improved cathode material durability, power, energy, and processing cost.

The Company successfully piloted NMC622 with 60% nickel content. These pilot tests were conducted at approximately 100 times normal lab scale, and the results provide added confidence that these nickel-rich materials can be manufactured at commercial scale.

The Company also began efforts on NMC811 with 80% nickel content, which provides relatively high energy density and has applications in longer range electric vehicles. However, NMC811 has well known instabilities that can lead to costly issues with safety, longevity and handling. The Company is developing an NMC811 material with proprietary coatings and additives to address the inherent shortcomings of NMC811.

The Company has successfully synthesized LNMO (Lithium Nickel Manganese Oxide), also referred to as "High Voltage Spinel", in the pilot plant and has filed a patent application in respect to the process that coats the LMNO with a protective material which improves its stability at higher temperatures. This coating may prove to also improve the interface between LMNO and solid-state electrolytes currently in development by a number of players for the next generation of lithium-ion batteries. This material has been sent to a number of strategic interests for testing and validation.

The Company has also developed a low - cost process for high-performance Lithium Iron Phosphate (LFP). This process uses lower cost sources of lithium, iron and phosphate than incumbent processes and has been successfully piloted. The process also generates LFP that is already carbon coated thereby eliminating additional process steps. Further, the process generates material with small particle size which is desirable and with an initial energy capacity in excess of $160mAhg^{-1}$ which is equivalent to or better than the highest performing LFP material available.

LFP is the safest and lowest cost cathode material for lithium ion batteries because it is highly durable and does not contain supply constrained cobalt or nickel. Cost reductions could significantly increase the demand for LFP as it becomes a cathode of choice for ESS (energy storage systems), as it replaces lead-acid batteries and as it expands its foothold in the electrification of transportation. The global demand for LFP is projected to grow from 100,000 metric tonnes in 2017 to over 200,000 tonnes in 2025.

The Company continues to develop coating and doping (chemical additives) technologies for NMC and LNMO materials with the objective of improving both the durability and stability of these materials for use in solid state batteries and other advanced lithium ion batteries. The the Company's process is suitable for component gradients within crystals and surface coatings without the need for additional process steps.

The Company has also completed preliminary engineering plans for a modular 3,300 tonnes/year NMC cathode production unit that could supply materials for roughly 24,000 60kWh electric vehicle batteries.

The Proprietary Protection

The Company believes that monetization of its technology is best pursued by protecting its proprietary position with patents and by pursuing a licensing strategy. This is seen as a capitally efficient means to leverage the supply chain, manufacturing, distribution and legal strengths of multinational materials producers, while allowing the Company and its collaborators to focus on core strengths in technology development.

As of the Report Date, the Company has been issued sixteen patents and has a portfolio consisting of thirteen different patent families The Company also has related patent applications pending throughout the world. As of the Report date, the following patents have been granted and issued to the Company:

- U.S. Patent No. 9,136,534 entitled "*Complexometric Precursor Formulation Methodology For Industrial Production Of High Performance Fine And Ultrafine Powders And Nanopowders For Specialized Applications*". This patent is directed to an innovative method for forming powders particularly well suited for use as a lithium ion cathode material in next generation lithium ion batteries.

- U.S. Patent No. 9,159,999 entitled "*Complexometric Precursor Formulation Methodology For Industrial Production Of Fine And Ultrafine Powders And Nanopowders Of Lithium Metal Oxides For Battery Applications*". This patent is specific to the formation of lithium metal oxides using the proprietary methods described in Nano One's U.S. Patent No. 9,136,534.

- Taiwanese Patent No. I517487 entitled "*Complexometric Precursor Formulation Methodology for Industrial Production of Fine and Ultrafine Powders and Nanopowders of Layered Lithium Mixed Metal Oxides for Battery Applications*". This patent relates to batteries utilizing the proprietary lithium mixed metal oxides discussed in U.S. Patent No. 9,159,999. This battery patent gives Nano One intellectual property protection in a commercially significant application of its proprietary technology.

- U.S. Pat. No. 9,698,419 entitled *"Complexometric Precursor Formulation Methodology for Industrial Production of Fine and Ultrafine Powders and Nanopowders of Layered Lithium Mixed Oxides for Battery Applications"*. This patent expands Nano One's propriety position to include the improvements in battery performance provided by the lithium ion cathode materials produced using Nano One's process.

- Japanese Patent No. JP6271599 entitled "Complexometric Precursor Formulation Methodology for Industrial Production of High Performance Fine and Ultrafine Powders and Nanopowders of Layered Lithium Mixed Oxides for Battery Application". This patent is directed at a lithium ion battery using cathode materials made by Nano Ones' proprietary process.

- Canadian Patent No. 2,906,009 entitled "Complexometric Precursor Formulation Methodology for Industrial Production of High Performance Fine and Ultrafine Powders and Nanopowders for Specialized Applications". This patent is directed at a method for forming a mixed metal powder, particularly for use as a cathode material in next generation lithium ion batteries

- Canadian patent no. 2,905,525 entitled "Reactor vessel for complexecelle formation". This patent describes the various embodiments of the reactor design for the patented Nano One process for making lithium ion cathode materials.

- Korean patent no 10-1854708 entitled "Complexometric precursor formulation methodology for industrial production of high performance fine and ultrafine powders and nanopowders for lithium metal oxides for battery applications". This patent is directed to the innovative method for making powders which is well suited to making lithium ion battery cathode materials for current and next generation cathodes.

- Korean patent no. 10-1839000 entitled "Complexometric precursor formulation methodology for industrial production of high performance fine and ultrafine powders and nanopowders of layered lithium mixed oxides for battery applications". This patent further describes the process for making the nanostructured precursor powder for making next generation lithium ion battery cathode powders.

- China patent no. CN 105594023 entitled "Complexometric precursor formulation methodology for industrial production of high performance fine and ultrafine powders and nanopowders of layered lithium mixed oxides for battery applications". This patent further describes the process for making the nanostructured precursor powder for making next generation lithium ion battery cathode powders.

- US patent number 10,189,719 entitled*"Complexometric Precursor Formulation Methodology for Industrial Production of Fine and Ultrafine Powders and Nanopowders of Layered Lithium Mixed Oxides for Battery Applications"*. This patent expands Nano One's propriety position to include the improvements in battery performance provided by the lithium ion cathode materials produced using Nano One's process.

- Canadian patent number 2,905,984 entitled *"Complexometric precursor formulation methodology for industrial production of fine and ultrafine powders and nanopowders for lithium metal oxides for battery applications."* Which is a Canadian granting of the patent US 9,159,999 above.

- US patent number 10,283,763. This patent is directed to improved lithium ion batteries, using cathode materials made by Nano Ones' patented process.

- US patent number 10,374,232. This patent adds value to Nano One's high energy cathode materials as it defines the unique physical form of the powdered materials and provides a proprietary means of improving durability, safety, handling and cost.

- US patent number 10,446,835 entitled *"Complexometric precursor formulation methodology for industrial production of fine and ultrafine powders and nanopowders for lithium metal oxides for battery applications."* This patent is of particular relevance as the composition of matter of the NMC is protected as is a battery comprising the composition of matter.

- TW patent number I672852 entitled *"*Phosphate Stabilized Lithium Ion Battery Cathode*."* This patent covers a novel method of stabilizing a manganese surface of an NMC and is particularly valuable as it provides an improvement in high energy spinels.

The Company continues to file patents relating to its portfolio of intellectual and will update the list of issued patents from time to time but will no longer be reporting the filing of patent applications unless otherwise disclosed to the public.

The intellectual property was developed and is wholly owned by the Company. The Company has filed other patent applications and may file additional patents at a later date to further strengthen its intellectual property and technology going forward, although no assurances can be given that it will be successful in such endeavours. The Company seeks to limit disclosure of its intellectual property by requiring employees, consultants and partners with access to the technology to execute confidentiality agreements and non-competition agreements and by restricting access to PLC's intellectual property and technology.

Despite the Company's efforts to protect its intellectual property and technology, unauthorized parties may attempt to copy aspects of its technology or to obtain and use information that the Company regards as proprietary. The laws of many countries do not protect proprietary rights to the same extent as the laws of the United States or Canada. Litigation may be necessary in the future to enforce the Company's intellectual property rights, to protect the Company's trade secrets, to determine the validity and scope of the proprietary rights of others or to defend against claims of infringement. Any such litigation could result in substantial costs and diversion or resources and could have a material adverse effect on the Company's business, operating results and financial condition. There can be no assurance that the Company's means of protecting its proprietary rights will be adequate or that competitors will not independently develop similar services or products. Any failure by the Company to adequately protect its intellectual property could have a material adverse effect on its business, operating results and financial condition.

SUMMARY OF QUARTERLY RESULTS

The following table sets out selected quarterly financial information derived from the Company's unaudited condensed interim financial statements, for each of the eight recently completed quarters, which have been prepared in accordance with IFRS. This requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenses during the reporting period. Actual results could differ from these estimates.

Period	Interest and other items	General admin	Share-based payment	Loss for the period	Net loss per share, basic and fully diluted
	$	$	$	$	$
September 30, 2019	90,700	(743,569)	(79,792)	(732,660)	(0.01)
June 30, 2019	11,402	(999,717)	(131,441)	(1,119,756)	(0.02)
March 31, 2019	8,765	(1,206,779)	(200,899)	(1,398,913)	(0.02)
December 31, 2018	978	(686,450)	(1,709,438)	(2,396,026)	(0.04)
September 30, 2018	16,956	(665,768)	(230,263)	(879,075)	(0.01)
June 30, 2018	-	(597,944)	(49,601)	(647,595)	(0.01)
March 31, 2018	10,087	(957,552)	(127,554)	(1,075,019)	(0.02)
December 31, 2017	11,040	(499,236)	(72,208)	(560,404)	(0.01)

RESULTS OF OPERATIONS

Nine Month Period Ended September 30, 2019 Compared To Nine Month Period Ended September 30, 2018

Loss and comprehensive loss for the period ended September 30, 2019, increased by $649,638. The change was primarily due to the following:

- General and administrative costs of $2,950,065 (2018 - $2,221,264) increased as follows:
    - Shareholders' communication and investors' relationship increased by $331,240 primarily due to more marketing and business development activities.
    - Salary and benefits increased by $132,711 due to the hiring of employees.
    - Research and development increased by $127,236 primarily due to work performed in connection with the pilot plant including hiring more employees. Total government assistance recognized for the period ended September 30, 2019 was $552,454 (2018 - $881,103). The amount is offset against research and development expense on the statement of loss and comprehensive loss. Depreciation cost decreased due to pilot plant was fully depreciated.

Research and Development Expense For Nine Month Period Ended September 30, 2019 Compared To Nine Month Period Ended September 30, 2018:

	Period Ended September 30, 2019 $	Period Ended September 30, 2018 $
Analytical services	17,480	10,558
Consulting	73,443	82,897
Depreciation	393,575	747,083
Government grant recovery	(552,454)	(881,103)
Lab rent	-	42,242
Office and lab expense	290,163	174,358
Salaries and benefits related to R&D	919,252	829,465
Travel	7,303	16,026
	1,148,762	1,021,526

- The Company recorded a non-cash share-based payment of $412,132 (2018 – $407,418) relating to the fair value of stock options that vested to the current period.

Three Month Period Ended September 30, 2019 Compared To Three Month Period Ended September 30, 2018

Loss and comprehensive loss for the period ended September 30, 2019 decreased by $146,415. The change was primarily due to the following:

- General and administrative costs of $743,569 (2018 - $665,768) increased as follows:
  - Shareholders' communication and investor relations increased by $78,537 primarily due to more marketing and business development activities
  - Salary and benefits increased by $33,066 due to the hiring of employees.
  - Travel costs increased by $14,010 mainly due to more trips for seminars, conferences.
  - Rent expenses decreased by $7,953 which was mainly net off by increased depreciation costs
  - Research and development decreased by $76,249 primarily due to fully depreciated pilot plant and more employees hired. Total government assistance recognized for the period ended September 30, 2019 was $335,926 (2018 - $498,116).
  - Other income increased by $73,744 mainly due to the invoice issued to the Global OEM for the first milestone.

Research and Development Expense For Three Month Period Ended September 30, 2019 Compared To Three Month Period Ended September 30, 2018:

	Period Ended September 30, 2019 $	Period Ended September 30, 2018 $
Analytical services	5,138	5,121
Consulting	38,628	42,048
Depreciation	34,592	409,909
Government grant recovery	(335,926)	(498,116)
Pilot plant rent	-	13,324
Office and lab expense	110,113	(3,927)
Salaries and benefits related to R&D	336,090	294,147
Travel	615	2,994
	189,250	265,499

- The Company recorded a non-cash share-based payment of $79,792 (2018 - $230,263) relating to the fair value of stock options that vested in the current period.

LIQUIDITY RISK

The Company has not yet realized profitable operations and has relied on non-operational sources of financing to fund operations. The ability of the Company to achieve its objectives, meet its ongoing obligations and recover its investments in granted and pending patents, and other assets will depend on management's ability to successfully execute its business plan, achieve profitable operations and obtain additional financing, if or when required. There is no assurance that these initiatives will be successful.

The Company started 2019 with working capital of $3,370,452, and as at September 30, 2019, the Company had working capital of $2,705,632. The decrease in the working capital of $664,820 was primarily due to:

- 840,600 warrants with an exercise price of $1.25 were exercised for gross proceeds of $1,050,750;
- 16,065 finders' warrants with an exercise price of $1.25 were exercised for gross proceeds of $20,082.
- 50,000 stock options with an exercise price of $0.35 were exercised for gross proceeds of $17,500;
- 40,000 stock options with an exercise price of $0.70 were exercised for gross proceeds of $28,000;
- 20,000 stock options with an exercise price of $0.67 were exercised for gross proceeds of $13,400;
- total government assistance recognized for $552,454; deferred grants recorded $865,613;
- general and administrative costs of $2,950,065 ;
- current portion of lease liailities recognized $100,831.

Recent developments in the capital markets have restricted access to debt and equity financing for many companies. As the Company has no significant income, cash balances will continue to decline as the Company utilizes these funds to conduct its operations, unless replenished by capital fundraising.

	September 30, 2019	December 31, 2018
Working capital	$ 2,705,632	$ 3,370,452
Deficit	(20,893,541)	(17,642,214)

FINANCIAL INSTRUMENTS

The Company is exposed to various financial instrument risks and assesses the impact and likelihood of this exposure. These risks include liquidity, credit, currency, interest rate, and price risks. Where material, these risks are reviewed and monitored by the Board of Directors.

Liquidity Risk

Liquidity risk is the risk that the Company will not be able to meet its obligations associated with its financial liabilities. The Company has historically relied upon equity financings to satisfy its capital requirements and will continue to depend heavily upon equity capital and possible loans to finance its activities. The Company manages liquidity risk through its capital management as outlined above. Accounts payable and accrued liabilities are due within one year.

Credit Risk

Credit risk is the risk of potential loss to the Company if the counterparty to a financial instrument fails to meet its contractual obligations. The Company's credit risk is primarily attributable to its liquid financial assets including cash and cash equivalents, and receivables. The Company limits exposure to credit risk on liquid financial assets through maintaining its cash with high-credit quality financial institutions.

The majority of the Company's cash and cash equivalents is held with major Canadian based financial institutions. The Company considers credit risk with respect to the receivables to be minimal.

Interest Rate Risk

Interest rate risk is the risk that the fair value of future cash flows of a financial instrument will fluctuate due to changes in market interest rates. Current cash is generally not exposed to interest rate risk because of their short-term maturity.

Price Risk

The Company is exposed to price risk with respect to equity prices. Equity price risk is defined as the potential adverse impact on the Company's earnings due to movements in individual equity prices. The Company closely monitors the individual equity movements to determine the appropriate course of action to be taken by the Company.

Based on management's knowledge and experience of the financial markets, management does not believe that the Company's current financial instruments will be affected by interest rate risk, currency risk and credit risk.

Fair Value

The Company classifies its fair value measurements in accordance with the three-level fair value hierarchy as follows:

Level 1 – Unadjusted quoted prices in active markets for identical assets or liabilities;
Level 2 – Inputs other than quoted prices that are observable for the asset or liability either directly or indirectly; and
Level 3 – Inputs that are not based on observable market data.

The carrying values of cash and cash equivalents, receivables, accounts payable and accrued liabilities and accounts payable to related parties approximate their fair values due to the short-term nature of these instruments.

FUTURE PLANS

The Company will continue to develop, optimize and demonstrate the benefits of producing various cathode materials using its processing technology, for use in lithium-ion batteries including the development of lithium iron phosphate (LFP), lithium nickel manganese cobaltate (NMC) and high voltage cobalt free cathode materials (HVS or LMN).

The Company will continue to collaborate with NORAM and BCRI to operate, demonstrate and improve its pilot plant technology. The engineering design and specifications of equipment follow from commercial scale concepts developed by the Company and NORAM. The Company will continue to provide preliminary output and optimization of cathode materials. The Company will also continue the evaluation of other next-generation lithium-ion battery materials as dictated by commercial interests. The Company intends to ramp up the internal testing requirements with test cell assembly and electrochemical characterization.

The Company has collaborated with Simon Fraser University to advance the understanding of the physical and chemical characteristics of lithium-ion batteries as they charge and discharge. The two-year collaboration with

SFU will be supervised by Associate Professor Dr. Byron Gates and Dr. Stephen Campbell, The Company's Chief Technology Officer, with financial support from the Mitacs Elevate Postdoctoral Fellowship Program.

The Company has entered into joint development agreements with Saint-Gobain to develop improved thermal processing and with Pulead Technology to develop a next generation commercial scale LFP production plant. The joint development work will continue with both parties.

As the lithium-ion battery market evolves, the Company believes its key opportunities lie in (i) manufacturing of value-added and differentiable cathode materials, (ii) enabling sources of lithium and other feedstocks that others cannot use, and (iii) customizing materials for solid state, fast charging and next-generation batteries. The Company adjusting financial models and development programs to pursue these opportunities.

The Company intends to leverage progress on these plans and approach other strategic interests and key market pull players to collaborate as partners in the development and commercialization of its technologies.

RELATED PARTY DISCLOSURES

Key management personnel is the persons responsible for the planning, directing and controlling the activities of the Company and includes both executive and non-executive directors, and entities controlled by such persons. The Company considers all Directors and Officers of the Company to be key management personnel.

(a) Purchases of services

	September 30, 2019 $	September 30, 2018 $
Sterling Pacific Capital, an entity controlled by John Lando, an executive director who is an officer, for miscellaneous operating expenses	-	4,321
Patent Filing Specialists Inc., an entity controlled by Joseph Guy, a director, for legal fees	89,648	81,644
	89,648	85,965

(b) Key management compensation

Key management includes directors (executive and non-executive), the Chief Executive Officer, President and Chief Financial Officer. The compensation paid or payable to key management for employee services is shown below:

	September 30, 2019 $	September 30, 2018 $
Bedrock Capital Corp., an entity controlled by Paul Matysek, an executive director, for consulting fees	45,000	45,000
Salary and benefits to Tammy Gillis, former CFO	-	53,608
Salary and benefits to John Lando, President, Interim CFO and Director	60,203	60,045
Salary and benefits to Dan Blondal, CEO and Director	100,789	97,545
	205,992	256,198

(c) Payable to related party

As at September 30, 2019, accounts payable to related parties consists of $16,646 (2018 – $nil) owing to a director and company controlled by a director and officer of the company.

OUTSTANDING SHARE DATA

The authorized share capital of the Company consists of unlimited common shares without par value.
As at Report Date, there were 67,189,802 (December 31, 2018 – 66,155,637) common shares outstanding.

Changes in issued share capital and equity reserves for the period ended September 30, 2019 were as follows:

1. The Company issued 50,000 common shares pursuant to the exercise of stock options at $0.35 for gross proceeds of $17,500. Accordingly, $16,720 was transferred from equity reserves to share capital.

2. The Company issued 40,000 common shares pursuant to the exercise of stock options at $0.70 for gross proceeds of $28,000. Accordingly, $17,659 was transferred from equity reserves to share capital.

3. The Company issued 20,000 common shares pursuant to the exercise of stock options at $0.67 for gross proceeds of $13,400. Accordingly, $6,994 was transferred from equity reserves to share capital.

4. The Company issued 840,600 common shares pursuant to the exercise of warrants at $1.25 for gross proceeds of $1,050,750.

5. The Company issued 16,065 common shares pursuant to the exercise of finders' warrants at $1.25 for gross proceeds of $20,082. Accordingly, $4,369 was transferred from equity reserves to share capital.

6. $95,591 was transferred from equity reserves to share capital due to 76,450 shares of expired stock option and 80,990 shares of expired finders' warrant.

Changes in issued share capital and equity reserves for the period ended September 30, 2018, were as follows:

1. The Company issued 400,000 common shares under the exercise of stock options at $0.35 for proceeds of $140,000, 50,000 common shares at $0.25 for proceeds of $12,500, and 5,000 common shares at $0.70 for proceeds of $3,500. Accordingly, $148,369 was transferred from equity reserves to share capital.

2. The Company issued 307,500 common shares under the exercise of warrants at $1.25 for gross proceeds of $384,375.

3. The Company issued 48,825 common shares under the exercise of finders' warrants at $1.25 for gross proceeds of $61,032. Accordingly, $13,280 was transferred from equity reserves to share capital.

As at Report Date, the following stock options were outstanding:

Number of Options	Exercise Price	Expiry Date
1,982,500	$0.25	March 5, 2020
225,000	$0.25	January 19, 2021
100,000	$0.38	April 8, 2021
50,000	$0.50	September 13, 2021
77,500	$0.70	March 10, 2022
25,000	$0.74	May 4, 2022
25,000	$0.67	June 5, 2022
150,000	$1.15	August 11, 2022
50,000	$1.08	September 13, 2022
150,000	$1.14	January 3, 2023
100,000	$1.19	January 9, 2023
278,550	$1.57	July 12, 2023
25,000	$1.08	September 10, 2023
2,445,000	$1.28	November 12, 2023
60,000	$1.37	January 24, 2021
100,000	$1.35	March 21, 2024
35,000	$1.25	September 3, 2024
5,878,550		

As at Report Date, the following warrants were outstanding:

Number of Warrants	Exercise Price	Expiry Date
676,500	$1.60	October 23, 2020

RISK AND UNCERTAINTIES

Risk is inherent in all business activities and cannot be entirely eliminated. Our goal is to enable the Company's business processes and opportunities by ensuring that the risks arising from our business activities, the markets and political environments in which we operate is mitigated. The risks and uncertainties described in the Annual MD&A for the year ended December 31, 2018, are considered by management to be the most important in the context of the Company's business and are substantially unchanged as of the Report Date. Those risks and uncertainties are not inclusive of all the risks and uncertainties the Company may be subject to, and other risks may apply.