



HPQ Silicon Inc.

(Formerly HPQ Silicon Resources Inc.)

MANAGEMENT DISCUSSION AND ANALYSIS

**For the third quarter ended on
30 September 2022**

INTRODUCTION

This Management Discussion and Analysis (“MD&A”), prepared as at November 29, 2022, contains information as at September 30, 2022, and should be read in conjunction with the unaudited Consolidated Financial Statements for the periods ended September 30, 2022, of HPQ Silicon Inc. (Formerly HPQ Silicon Resources Inc) (“HPQ Silicon”, the “Company” or “HPQ”). The Notes referred to in this MD&A refer back to the Notes in the Consolidated Financial Statements. The Consolidated Unaudited Financial Statements are presented in compliance with the IAS 34 standards “Quarterly Financial Information” which calls for critical accounting estimates. They also demand of Management exercise its judgement in the application of the accounting methods used by HPQ Silicon. Note 5 of the Financial Statements outlines the particularly complex areas where such judgement is required as well as the hypotheses and estimates where such hypotheses and estimates have a major effect on the Consolidated Financial Statements. The consolidated Financial Statements were not adjusted in regard to the accounting value of Assets and Liabilities, Revenues and Expenses and to the classification used in the preparation of the Consolidated Cash Flow Statement under the hypothesis of the Corporation’s ability to continue as a going concern. These adjustments could be significant. All amounts are in Canadian dollars.

The consolidated Financial Statements of September 30, 2022, were prepared by management and not are not audited.

HPQ Silicon Inc. was incorporated on December 20, 1996, under the Canada Business Corporations Act. The Corporation’s shares are part of the Emerging Corporation category and are publicly traded on the TSX-Venture Exchange (“TSX-V”) under the symbol:” HPQ”. It is a reporting issuer under the securities laws of the provinces of Quebec, Alberta, and British Columbia. Since March 16, 2021, the Company's shares have been traded on the OTCQX Best Market under the symbol “HPQFF”. On July 4, 2022, the Company obtained the certificate of modification of its corporate name for HPQ Silicon Inc. as well as its classification of its activity for Industrial, Technological or Life Sciences group 1 on the TSX Venture Exchange as of august 2022. HPQ Silicon’s Head Office is located at 3000, Omer-Lavallée Street, Suite 306, Montréal, Québec, Canada, H2Y 1R8.

The Corporation regularly presents supplementary information on its activities which are filed on SEDAR (www.sedar.com).

CAUTIONARY NOTE REGARDING FORWARD-LOOKING STATEMENTS

This MD&A contains forward-looking statements that are based on the Company's expectations, estimates and projections regarding its business, the development of technologies related to the transformation of quartz into silicon materials and its derivatives in which it operates as of the date of the MD&A. These statements are reasonable but involve a number of risks and uncertainties, which are identified in the regular filings done by the Corporation with the Canadian Regulatory Authorities, and there can be no assurance that they will prove to be accurate and the final results as well as future events could vary in a material manner and contradict the results expected under these Statements.

The reader is cautioned not to place undue reliance on forward-looking statements as, actual outcome and results may differ materially from those expressed in or implied by these forward-looking statements.

The Forward-Looking Statements are influenced by a variety of risks, uncertainties and other factors which could significantly alter the results and actual events. When used in this document the words such as “could”, “plan”, “estimate”, “intention”, “potential”, “should” and similar expressions are Forward Looking Statements.

Even though the Corporation believes that the expectations expressed in these Forward-Looking Statements are reasonable, these statements are subject to risks and uncertainties and there is no assurance given by the Corporation that the expected results will correspond to the Forward-Looking Statements.

Many risks exist which could render these Forward-Looking Statements erroneous such as the inability to obtain patents or other development risks

The Corporation's ability to continue its operations is subject to securing additional financings needed to continue the development of its technologies, to start commercial production, and the continued support of its suppliers and creditors. Even though the Corporation was able to secure such financings in the past there is no guarantee it will be able to do so in the future.

The Corporation commits to update its Forward-Looking Statements and to advise its shareholders if circumstances, estimates or opinions issued by Management changes.

DESCRIPTION OF THE BUSINESS

The Company is a clean technology company with a patented (pending and granted), scalable and low carbon footprint industrial process for manufacturing high-purity Silicon (Si) and Fumed Silica.

SILICON (Si)

Silicon (Si), also known as silicon metal, is a semi-conductor material and the second most abundant element in earth's crust. Like all other energy metals (lithium, graphite, cobalt, nickel, etc.), it does not exist in its pure state and is expensive to extract.

Silicon is also one of today's key strategic materials needed for the decarbonization of the economy and the Renewable Energy Revolution ("RER"). The EU and Australia declared Silicon a critical raw material as a wide range of modern technologies depends on it to make various numbers of industrial and consumer products.

Silicon (Si) demand is expected to reach 3.8 million tonnes, worth > US\$ 10 billion by 2025 (Source CRU).

The Silicon market is ripe for the development of disruptive technologies, because

- To extract it commercially from Quartz (SiO₂) an expensive & energy intensive carbothermic process, first invented in 1899, is still used,
- Depending on final application, (Solar, Electronics, Batteries) Chemical grade Silicon (99.5% Si) must either be purified & or engineered

FUMED SILICA

Fumed Silica is a versatile, microscopic white powder with a large surface area and low bulk density. The material is growing at a compound annual growth rate (CAGR) of 6% and is expected to reach US \$2.2 billion in market value by the end of 2022.

The most common production method for fumed silica, known as pyrogenic silica, is highly unsustainable, requiring massive amounts of energy and vast chemical inputs.

Yet, because of fumed silica's importance in industries like personal care, pharmaceuticals, agriculture (both feed and food), construction (sealants and adhesives), batteries, and automotives, the material is still widely manufactured, producing significant emissions.

Environmental, Social and Corporate Governance (“ESG”) aspect of Silicon and Fumed Silica manufacturing and its transformation are becoming crucial factors for end users.

TECHNOLOGIES OVERVIEW

HPQ Strategic Silicon Solution initiatives are focused on proposing innovative silicon (Si)-based solutions all the while developing a unique portfolio of high value-added silicon (Si) and Silica (SiO₂) products sought after by battery and electric vehicle manufacturers.

To deliver to market high value speciality Silicon and Silica products using technologies that will reduce energy consumption, GHG’s, and carbon footprint, the Corporation’s activities are centred on:

- a) Developing the *PUREVAP™ “Quartz Reduction Reactor” (QRR)* (patent granted in the United States and pending in other jurisdictions), a new green and low-cost process to transform Quartz (SiO₂) into Silicon Metal (Si).
- b) Transforming the Silicon produced by the *PUREVAP™ QRR* into the Silicon material needed for batteries applications and other high value silicon base applications. As part of this this strategy,
 - (i) HPQ is developing the *PUREVAP™ “Nano Silicon Reactors” (NSiR)* (patent pending), a new process to make the nano silicon materials that batteries and Electric Vehicle (“EV”) manufacturers are looking for
- c) Developing a new plasma-base process that will allow a direct Quartz to Fumed silica transformation, removing the usage of hazardous chemical in the making of Fumed silica and eliminating the Hydrogen Chloride Gaz (HCl) associated with its manufacturing.
- d) Collaborating with Novacium SAS of France, on R&D to develop innovative processes that may be complementary to HPQ’s processes in the following niche sectors:
 - (i) Manufacturing silicon or SiOx particles for battery applications.
 - (ii) Manufacturing carbon particles for super-capacitor applications
 - (iii) Manufacturing silicon-based particles for battery and hydrogen applications, etc.

TECHNOLOGIES

THE PUREVAP™ QUARTZ REDUCTION REACTOR (QRR)

The *PUREVAP™ “Quartz Reduction Reactor” (QRR)* is an innovative clean technology boasting a low-cost and environmentally friendly silicon production process, capable of transforming and purifying quartz (SiO₂) into High Purity Silicon metal (99.5% to 99.99+% Si) —in a single step.

The primary advantage of the QRR is its unique ability to operate a process under a vacuum, resulting in the early removal of impurities. As a result, the QRR uses 25% less feedstock to make the same amount of silicon as traditional production processes (4.5 Metric Tonnes (MT) to make 1MT of silicon as opposed to 6MT) — granting up to a 20% cash cost advantage, all the while producing a higher purity silicon (4N versus 2N) and reducing negative environmental externalities.

Crucially, the QRR also allows for the substitution of costly high purity reductants with cheaper, more readily available materials. Conventional silicon producers, like Ferroglöbe, Dow-DuPont, Elkem, Rima, and Rusal, on the other hand, rely on high purity low-ash coal, only available from two coal mines globally (Blue Gem Coal and Colombian coal). This extreme market concentration represents an economic liability

for traditional silicon producers as any slight price increase quickly impacts their bottom line. Additionally, it acts as a market entrance barrier for new prospective participants.

This provides QRR with a substantial competitive edge, as its low-cost sourced materials are less susceptible to supply chain woes and price gouging.

PUREVAP™ QRR TECHNOLOGY DEVELOPMENT

The PUREVAP™ QRR technology R&D development is progressing as expected. The Gen 3 PUREVAP™ QRR Pilot Plant, a scale up version of the Gen 2 PUREVAP™ QRR by a factor of approximately 2,500 times, is being deployed to validate and replicate key findings previously identified during Gen 1 and 2 testing.

This represents the final research and development phase before commercial rollout and serves as the means to test the system under operational conditions while producing High Purity Silicon material sought after by high-value application manufacturers.

The Gen 3 PUREVAP™ QRR is a first-of-its-kind, state-of-the-art pilot plant prototype used to complete the commercial pilot plant testing phases.

Started in June 2022, a vigorous testing program is ongoing and will take place roughly 12 months.

This final phase will allow HPQ, its technology provider and subcontractor to validate and quantify the QRR's disruptive advantages as previously identified during Gen 1 and 2 testing.

These advantages include:

- The ability to produce silicon metal at a greater purity than any traditional processes available on the market today in one step.
- The PUREVAP™ QRR doesn't require the highly pure feedstock that traditional production methods need.
- That PUREVAP™ QRR can produce 1MT of high-purity silicon with 25% fewer raw material inputs.
- The technology possesses a cash cost advantage as compared to the lowest-cost traditional silicon metal producer.

Any remaining operational or technological challenges will be worked out during this phase. In addition, an in-depth breakdown of the project's economics, including the cost to build and operate commercial-scale plants, and all of the different economic variables involved, will also be provided.

THE FUMED SILICA REACTOR

The environmental impact of current fumed silica manufacturing, requiring massive energy inputs (~115,000 kWh of energy to produce 1 Tonne (MT) of Fumed Silica) combined with the release in the atmosphere large quantities of hydrogen chloride gas, constraining its usage in contemporary markets.

As ESG continues to grow in importance to corporate maturation and profitability, the manufacturing issues affecting Fumed Silica will only become more prevalent. Herein lies the significant market opportunity for HPQ's proprietary Fumed Silica Reactor technology.

HPQ's Fumed Silica Reactor is much simpler than traditional fumed silica production methods. The patented (pending) plasma-based process relies on exposing quartz feedstock to an electric arc in a manner similar to that of lightning. The extremely high temperature in the Fumed Silica Reactor vaporizes the quartz, turning it into tiny particles. Then, it can be re-solidified into Fumed Silica powders, perfect for a variety of industrial and commercial applications.

HPQ's Fumed Silica Reactor allows a direct Quartz to Fumed silica transformation, removing the usage of hazardous chemical in the making of Fumed silica and eliminating the Hydrogen Chloride Gas (HCl) associated with its manufacturing.

Furthermore, the process requires 15,000 kWh to produce a MT of Fumed Silica, this represents an 86% reduction in the energy footprint associated with manufacturing Fumed Silica. Finally, since the new process uses Quartz as feedstock, its capital requirements will only be a small fraction of what is required to build a traditional Fumed Silica plant.

THE FUMED SILICA REACTOR TECHNOLOGY DEVELOPMENT

The Fumed Silica Reactor Technology R&D development is advancing although at a slower pace than previously divulge in 2021. The goal of the program is similar to what we are accomplishing with the *Gen3 PUREVAP™ QRR* Pilot Plant, which is building and operating a 50 Tonnes (MT) per year commercial Fumed Silica Reactor pilot plant.

Engineering and construction of the Fumed Silica Pilot Plant, budgeted at \$2 million, is finance by the following parties:

- The Federal Government of Canada (SDTC) will pay ≈ 33% of the cost,
- The Quebec Government (TED) will pay ≈ 30% of the cost,
- HPQ Silica Polvere Inc (a 100% owned HPQ subsidiary) will pay ≈ 29% of the cost, and
- PyroGenesis Canada Inc will cover the remaining ≈ 8% and act as operator

Engineering and construction of the Fumed Silica Pilot Plant is ongoing and will likely finish midway through 2023. Afterwards, validation of the pilot plant technology will commence, alongside assessments of commercial scalability. These tests should be complete towards the middle of 2024 and will set the stage for the development of the commercial Fumed Silica Reactor, afterward.

As part of the ongoing engineering and design work, HPQ Silica Polvere Inc and PyroGenesis are presently doing a series of small-scale R&D tests to validate improved design concepts for the Fumed Silica Reactor pilot plant and producing small samples of Fumed Silica for evaluation.

TECHNOLOGIES TO TRANSFORM QRR SILICON INTO HIGHER-VALUE SILICON MATERIALS

Over the last few years HPQ has signed at least seven (7) NDAs with EV manufacturers, battery makers and other high-value materials companies. The recurrent theme between all these NDAs is their interest in our one-step manufacturing of High Purity Silicon (3N to 4N).

In addition to our capability to manufacture High Purity Silicon (3N to 4N), these potential clients have each made very specific demands regarding the sizing of the silicon materials they are looking for.

Without divulging information protected by NDAs, what we can say is that HPQ has come to realize that there are two different family size of Silicon materials that are sought after by EV manufacturers, battery makers and other high-value materials companies.

There is an immediate demand, growing exponentially, for micron-size silicon material coming from the battery and advance material sectors, while demand for nano-size silicon materials come more from early-stage battery players.

Based on this information, the Company is implementing a two-pronged approach as it pertains to transforming our QRR Silicon into higher-value silicon material:

1. Working with Novacium, the focus will be on using commercially available technologies to transforming QRR Silicon into micro-size silicon materials for EV, battery, and advance material manufacturers.
2. Working with PyroGenesis, the focus remains on developing the *PUREVAP™ Nano Silicon Reactor (NSiR)* to make the nano silicon material needed by the next generation of battery manufacturers.

THE PUREVAP™ NANO SILICON REACTOR (NSiR)

The NSiR is a new proprietary process that can use the high-purity silicon (3N to 4N) produced by the *PUREVAP™ QRR* and transform it into nano silicon spherical powders and wires. By internally sourcing silicon feedstock materials, HPQ's NSiR should be able to achieve low manufacturing cost while maintaining the flexibility to rapidly adapt the feed material to meet changing End-market requirements.

PUREVAP™ NSiR TECHNOLOGY DEVELOPMENT

The first Phase of the technology development started in August 2020 was focus on modifying the existing *Gen2 PUREVAP™ QRR* reactor into the *Gen1 PUREVAP™ NSiR* for the purpose of producing nano silicon materials. The resulting new *Gen1 NSiR* will be a batch process system with a design production capacity of 30 kg/month of nano silicon powders.

During January 2021, *Gen1 PUREVAP™ NSiR* commissioning tests were conducted. The material produced, under the less-than-optimum operating conditions of the first commissioning tests, was analysed by scanning electron microscope (SEM) imaging combined with X-ray diffraction (XRD).

By April 2021, ongoing tests allow the systematic advancement of the project. The main segments of the ongoing process validation and optimization tests can be summarized as follows:

1. Validation that the system can produce < 150nm nano materials,
2. Validation that the system can reach its design production parameters, and
3. Production of qualified samples.

Key takeaway from these latest results, centered around the production rate of the process, indicated that the system could produce at a higher rate than originally expected. As testing progressed during the second half of 2021, the challenge for the team became eliminating oxygen from the final product of nano-silicon material. The oxygen was affecting our ability to produce qualified samples.

Systematic analysis of the process indicated that:

- The internal sources of oxygen contamination were directly linked to the heat-resistant liner material used in the *Gen1 PUREVAP™ NSiR*, a modified *Gen2 PUREVAP™ Quartz Reduction Reactor ("QRR")*, originally designed for the carboreduction of quartz into Silicon (Si),
- The *GEN 1 PUREVAP™ NSiR* needed to be redesigned and rebuilt to eliminate the internal sources of the contamination.

A modified *Gen1.5 PUREVAP™ NSiR* system was re-designed and built in Q3 2021 and commissioned in Q4 2021. While Preliminary results obtained with material produced during commissioning tests completed in December 2021 were promising, unfortunately, even after final adjustments, the oxygen contamination issue is still affecting the material produce. The solution is presently being studied.

HYDROGEN INITIATIVES

During August 2021, HPQ signed an MOU with EBH₂ Systems SA, ("EBH₂") regarding the potential exploitation of EBH₂ generators, subject to the generators meeting some efficiencies milestones.

Unfortunately, the testing done did not allow the validation of EBH₂ key claims. As a result, HPQ announced on October 31, 2022, that it is no longer pursuing the MOU signed in August 2021. We may revisit this opportunity if EBH₂ has more success with the new generation generator they are developing.

Currently, HPQ is working with Novacium regarding the development of processes for making hydrogen via hydrolysis of silicon and other materials

INTELLECTUAL PROTECTION OF OUR TECHNOLOGIES

HPQ's strategy regarding protecting its intellectual properties is to use a mix of patent applications combined with proprietary know-how. As of now, the corporation's patent portfolio is mostly composed of patents acquired from PyroGenesis Canada Inc. In the near future, working with Novacium, the Corporation will be also looking into filing its own patent applications.

HPQ PUREVAP™ QRR is protected by two ongoing patent applications. The first covers the “*silica to high purity production process*” while the second is a “*new and novel process for continuous operations of a plasma arc furnace under vacuum*”. In March 2022 the United States Patent and Trademark Office issued U.S. Patent No. 11,267,714 for “*the silica to high purity production process*”, and other jurisdictions should be issuing their patent approval for this invention soon. The second patent is still Patent Pending.

As part of its IP portfolio strategy to protect the PUREVAP™ QRR technologies, HPQ acquired from PyroGenesis in September 2022, a new intellectual property regarding a “*Low Carbon Emission Process for the production of Silicon*”.

HPQ patent application for the PUREVAP™ NSIR, held by HPQ 100% subsidiary HPQ Nano Silicon powders inc. is still in the pending approval stage, as is HPQ patent application for the Fumed Silica Reactor, held by HPQ 100% subsidiary HPQ SILICA Polvere Inc.

RECENT CORPORATE DEVELOPMENT OVERALL PERFORMANCE

- On September 15, 2022, HPQ announced that it has partnered with three leading French research engineers to create Novacium, a “Jeune Entreprise Innovante (J.E.I)” based in Lyon, France.
- On September 13, 2022, HPQ announced the signature of a Memorandum of Understanding (“MOU”) with Quebec Silica Resources Corporation regarding the procurement of Quartz material from QTZ’s Charlevoix Silica Project to HPQ for testing and evaluation purposes.
- On August 31, 2022, HPQ announced the signature of a property acquisition transaction with Quebec Silica Resources Corporation regarding the sale of HPQ’s last exploration assets, the Roncevaux and Martinville Quartz properties.
- On May 26, 2022, HPQ announced that the PUREVAP™ QRR pilot plant project was entering its final Research and Development phase; operating the pilot plant to test the system under operational conditions.
- On May 17, 2022, HPQ announced that the ownership of PUREVAP™ QRR pilot plant system was transferred to HPQ.
- On March 9, 2022, HPQ announced that the United States Patent and Trademark Office issued U.S. Patent No. 11,267,714 entitled “SILICA TO HIGH PURITY SILICON PRODUCTION PROCESS” to HPQ SILICON RESOURCES INC.

- On February 8, 2022, HPQ announced the signature of a non-disclosure agreement (“NDA”) with a world-leading high-performance material company for the purposes of using the 4N silicon (Si) material to be produced by the *PUREVAP™ QRR* pilot plant as feedstock to make silicon nitride (Si₃N₄) ceramics.
- During the third quarter of 2022, the Company acquired the intellectual property of \$3,600,000, \$710,000 for equipment and \$9,428 for equipment under construction. For the period ended as at September 30, 2022, HPQ cumulative patent-related expenses total \$234,760, \$3,600,000 for intellectual properties, \$710,000 for equipment and \$26,937 for equipment under construction.

FINANCING AND OTHER

- On August 30, 2022, the Company completed the sale of its exploration and evaluation assets to Québec Silica Resources Inc. (“QTZ”) for 3,000,000 units consisting of one share and one-half warrant. The value of the transaction is \$ 300,000.
- During the third quarter of 2022, the Company issued 2,329,412 common shares following the exercise of 350,000 options and 1,979,412 warrants for a total amount of \$338,973. Since the beginning of the year, 7,381,412 common shares have been issued following the exercise of 1,250,000 options and 6,131,412 warrants for a total amount of \$1,090,473.
- On May 2, 2022, the Company completed private financing for an amount of \$3,604,000. The Company issued 6,800,000 units consisting of one common share and one warrant. Each full warrant entitles the holder thereof to subscribe an equivalent number of common shares of the Company at a price of \$0.60 per share, during a period of 24 months following the closing of the financing.
- As at September 30, 2022, the Company had \$1,897,196 in cash, marketable securities of \$549,433, goods and services tax receivable of \$852,306, investment tax credits receivable of \$50,000, a note receivable of \$2,650,000 and \$631,183 in prepaid expenses and others.

RESEARCH AND DEVELOPMENT EXPENSE

The following table represents comparisons at the 2021 period for research and development expenses for the quarter ending September 30, 2022, and the 2022 fiscal period.

	QUARTER		CUMULATIVE	
	2022	2021	2022	2021
Consultant	319,592	-	319,592	-
Equipment	306,184	-	306,184	-
Total	625,776	-	625,776	-

Since becoming a technology company in July 2022, the Company technology provider and subcontractor to develop new applications and improve those already in development for our Silicon projects for an amount of \$319,592 and \$306,184 for our participation in the development of a green Fumed Silica manufacturing technology.

SELECTED FINANCIAL INFORMATION

Third quarter of 2022

The Net Loss increase of \$1,114,896 (163%) (\$1,799,874 vs \$684,978) compared to the 2021 period corresponds to the increase in operating expenses of \$1,084,816 (353%) (\$1,391,926 vs \$307,110) and an increase in other income and charges of \$30,080 (8%) (-\$407,948 vs -\$377,868). During the last seven quarters, their respective averages were \$1,316,312 and \$1,161,189.

The following table presents the selected financial information for the last eight quarters.

Quarter finishing on:	2022			2021			2020	
	09/30	06/30	03/31	12/31	09/30	06/30	03/31	12/32
	\$	\$	\$	\$	\$	\$	\$	\$
Operating	1,391,926	1,384,923	614,465	4,727,680	307,110	453,262	306,642	334,241
Net loss (income)	1,799,874	1,608,983	744,701	5,158,711	684,978	993,896	(506,319)	529,234
Results per share (basic and diluted)	0.00	0.01	0.00	0.02	0.00	0.00	(0.00)	0.01
Current assets	6,630,118	7,887,741	4,942,189	4,410,906	5,287,309	9,647,128	5,017,697	2,963,648
Total assets	26,832,812	24,175,110	21,814,780	21,722,779	23,963,454	27,949,094	19,794,947	17,662,836
Current liabilities	3,740,180	732,813	627,399	601,340	675,850	4,400,230	535,990	523,075
Non-current liabilities	3,073,818	2,962,525	2,884,277	2,789,194	2,763,765	2,964,047	4,793,584	4,651,082
Shareholders' Equity	19,018,814	20,479,772	18,303,104	18,332,245	20,523,839	20,584,817	14,465,373	12,488,679

Period to date 2022

During the financial period of 2022, the Company saw an increase in its Net Loss of \$3,026,609 (283%) (\$4,093,623 vs \$1,172,555), while operating costs increased by \$2,324,297 (218%) (\$3,391,311 vs \$1,067,014), during the last three previous periods these costs averaged respectively \$863,446 and \$882,552.

The following table presents financial information for the periods 2019 at 2022.

	2022	2021	2020	2019
	09/30	09/30	09/30	09/30
	\$	\$	\$	\$
Operating costs	3,391,311	1,067,014	754,130	826,513
Net loss	4,153,555	1,172,555	262,357	1,155,425
Basic and diluted earnings per share	(0.01)	(0.00)	(0.00)	(0.00)
Current assets	6,630,118	5,287,309	3,026,367	2,420,938
Total assets	26,832,812	23,963,454	16,682,482	11,168,641
Current liabilities	4,740,180	675,850	615,393	881,085
Non-current liabilities	3,073,818	2,763,765	3,678,526	3,732,391
Shareholder's equity	19,018,814	20,523,839	12,388,563	6,555,165

GENERAL DISCUSSION OF FINANCIAL INFORMATION FOR THE THIRD QUARTER AND THE PERIOD 2022

Analysis of comprehensive income

Compared to the corresponding periods of 2021, there was an increase the Net loss for the quarter of \$1,114,896 (163%) (\$1,799,874 vs \$684,978) which corresponds to the increase in operating costs of \$1,084,816 (353%) (\$1,391,926 vs. \$307,110) and a decrease in other income and charges of \$30,080 (8%) (-\$407,948 vs. -\$377,868). While that of the 2022 period, there was an increase the Net loss of \$2,981,000 (254%) (\$4,153,555 vs. \$1,172,555) which corresponds to an increase in operating costs of \$2,234,297 (218%) (\$3,391,311 vs. \$1,067,014) and the decrease in other income and expenses of \$656,703 (622%) (-\$762,244 vs. -\$105,541).

Analysis of the operating costs

The following table presents the major changes in certain components of comprehensive income compared to the 2021 period for the operating costs of the quarter ending September 30, 2022, and the 2022 fiscal period.

	QUARTER		Increase /(Decrease)
	2022	2021	
Salaries and employee benefits expense	190,011	152,555	37,456
Other operating expenses			
Office expenses	23,701	12,468	11,233
Amortization of property and equipment	391,666	-	391,666
Amortization of intangible assets	140,262	38,857	101,405
Research and development costs	625,776	-	625,776

	CUMULATIVE		Increase /(Decrease)
	2022	2021	
Salaries and employee benefits expense	538,756	468,140	70,616
Other operating expenses			
Professional fees	545,079	349,382	195,697
Traveling expenses	19,787	1,391	18,396
Office expenses	67,761	45,532	22,229
Amortization of property and equipment	1,174,777	-	1,174,777
Amortization of intangible assets	418,010	116,571	301,439
Research and development costs	625,776	-	625,776

Salaries and employee benefit expenses

The increase corresponds to the hiring of an employee compared to the corresponding period.

Other operating costs

Professional Fees

The increase in professional fees of \$195,697 in our 2022 fiscal year includes an amount of \$164,712 which represents the value of the grant of options to our legal counsel.

Travelling expenses

The increase in travel costs is mainly related to the validation of EBH2 technology, which was inconclusive.

Office expenses

Since May 2022, the Company has assumed the cost of insurance on the equipment. It represents an additional expense of approximately \$11,000 quarterly.

Amortization of tangible and intangible assets

The company has amortized both tangible and intangible assets since the beginning of the year and certain intangible assets are no longer capitalized in exploration and valuation assets compared to 2021.

Research and development costs

Since July, the Company has mandated a subcontractor to develop new silicon applications and improve those already in progress for an amount of \$319,592 and \$306,184 for our participation in the development of green manufacturing of Fumed Silica.

Financial Position

As at September 30, 2022, the Company had a working capital of \$1,889,938 (\$3,809,566 as of December 31, 2021). Total current assets are \$6,630,118 and current liabilities are \$4,740,180.

Current assets

Consist of the following:

- Cash of \$1,897,196 (\$2,672,697 as of December 31, 2021).
- The marketable securities of \$549,433 (\$666,000 as of December 31, 2021). It represents the fair market value of the shares of PyroGenesis as well as those of Québec Silica Inc.
- Goods and services receivable of \$852,306 (\$645,981 as of December 31, 2021). This amount represents our last two quarters of 2022.
- A \$50,000 investment tax credit receivable (\$50,000 as of December 31, 2021).
- No exploration and evaluation assets held for sale (\$200,000 as of December 31, 2021). The Company disposed of its assets during the third quarter.
- The note receivable of \$2,650,000 (Nil as of December 31, 2021). During the third quarter, the Company placed this amount at an interest rate of 3% maturing on December 31, 2022.
- Prepaid expenses and others of \$631,183 (\$176,229 as of December 31, 2021). This amount represents directors' and officers' insurance and equipment, annual fees for OTC Markets, the TSX Venture Exchange and \$336,500 for research and development to be performed during the next quarter.

Non-current assets

During the fiscal period of 2022, the Company acquired property plant and equipment for \$736,937, intangible assets for \$3,834,760, including patents for \$234,760 and intellectual property for

\$3,600,000. The contract deposit of \$1,950,000 represents a part of the cost related to the break-in of the tested equipment.

On June 23, 2022, the Company signed an addendum to modify the initial terms of the royalty receivable agreement. The NSR payments for each subsequent year have been replaced with 10% annual interest, the \$250,000 royalty is non-transferable, and the due date is December 31, 2025, including unpaid interest.

The fair value of royalties' receivables was estimated using a present value technique, immediately prior to the modification date. The revalued fair value of \$230,932 was estimated based on the probability of cash inflows over a four-year period at a rate of 18%.

The Company has assessed the royalty receivable at \$133,772 calculated on the estimated cash flows under the addendum over a 3.5 years period at a rate of 18%. The change in royalty resulted in a loss of \$97,160 which was recognized in profit or loss during the period. As of September 30, 2022, the value of the royalty receivable is \$139,883.

Current liabilities

Consist of the following:

- Trade and other payable of \$4,282,680 (\$258,905 as of December 31, 2021). An amount of 4,139,100 related to the acquisition of intellectual property.
- Due to Directors of \$107,500 (\$41,500 as of December 31, 2021).
- Royalties payable of \$350,000 (\$300,935 as of December 31, 2021)

Non-current liabilities

Non-current liabilities totalling \$3,073,818 (\$2,789,194 as of December 31, 2021) representing due to directors, officers and a corporation owned by a director for \$1,007,256 (\$1,020,891 par value) (\$982,456 as of December 31, 2021, with a par value of \$1,020,891) and royalties payable of \$2,066,562 (\$1,806,738 as of December 31, 2021).

Equity

During the period of 2022 the Company issued 14,181,412 shares. This corresponds to a private placement for 6,800,000 shares for an amount of \$3,640,000, the exercise of 6,131,412 warrants for an amount of \$940,473 and the exercise of 1,25,000 option for an amount of \$150,000.

Working capital

As of September 30, 2022, the Company had a cash flow of \$1,897,196 (\$3,518,530 for 2021).

Operating activities

Cash flow used for operating activities of \$1,828,243 consists of a Net Loss of \$4,153,555 and no-cash items that have no impact of the cash flow of \$2,106,558. The change in cash flows from working capital operating activities represents an amount of \$218,754 which comes from the increase in HST receivable of \$206,325, an increase in prepaid expenses and others of \$454,954 as well as a decrease in trade and other payables of \$442,515.

Investing activities

The use of cash in investing activities of \$3,622,660 consists of an addition to property and equipment of \$736,937, the addition of intangible assets of \$234,751, the addition of exploration and evaluation assets held for sale of \$962 and a note receivable of \$2,650,000.

Financing activities

Cash flow from financing activities in the amount of \$4,675,403 includes the issuance of units in a private placement of \$3,604,000, the exercise of warrants for \$940,473, the exercise of options for \$150,000 and issuance costs of \$19,070. The Company decreased its cash flow by \$775,500 during the period.

The Corporation average quarterly cash requirements should vary between \$300,000 and \$350,000 according to each period's activities excluding exploration and evaluation costs and the addition to property equipment and intangible assets.

As the Company is still in its development phase and will now focus on the innovation of silicon solutions and related technology, the Company will likely continue to operate at a loss until the technology can be commercialized, and the Company will require additional financing in order to fund future operations and expansion plans. The Company does not expect to generate revenue from product sales unless and until it successfully completes development of its silicon solutions, which may take a number of years and is subject to significant uncertainty. Until such time that it can generate significant revenue from product sales, if ever, the Company expects to finance its operations through a combination of public or private equity or debt financings or other sources.

The Company currently has no committed sources of financing available. While the Company has been successful in securing financing in the past, raising additional funds is dependent on a number of factors outside the Company's control, and as such there is no assurance that it will be able to do so in the future. The ability of the Company to meet its commitments and discharge its liabilities as they become due and become profitable is dependent on the successful completion of the development of its technology and its commercial production, its ability to raise additional funding to finance these activities and the continued financial support of shareholders and lenders.

The conditions mentioned above indicate the existence of a material uncertainty that may cast a significant doubt as to the Company's ability to continue as a going concern.

The carrying amounts of assets, liabilities, revenues and expenses presented in the consolidated financial statements and the classification used in the statement of financial position have not been adjusted as would be required if the going concern assumption was not appropriate. Those adjustments could be material.

FINANCIAL COMMITMENTS, CONTINGENCIES AND SUBSEQUENT EVENTS

The Company entered into agreements with subscribers whereby the Company had to incur \$1,245,000 of Canadian Exploration Expenses ("CEE") before December 31, 2017. The Company had incurred \$919,296 in CEE before December 31, 2017 and an approximate balance of \$293,000 of CEE renounced to the investors was not been incurred as at December 31, 2017, and was used for other purposes than exploration expenses. The maximal contingency for the Company, in relation to non-compliance with its obligations with subscribers, is approximately \$220,000. As at February 28, 2018, the Company had produced the reductions forms related to the amount of \$293,000 in CEE renounced to the investors and that have not been incurred as at December 31, 2017. As at September 30, 2022, an amount of \$17,321 pertaining to part XII.6 taxes is included in trade accounts payable.

On September 28, 2015, the Corporation concluded a Development and Exclusivity Agreement with PyroGenesis. In return for the Exclusive Right to use the PyroGenesis-developed technology, it must make the following payments:

- 2022 and after, the highest between 10% of Si sales or \$250,000.

On August 18, 2020, the Company acquired with PyroGenesis the PUREVAP™ NSiR technology for the fabrication of nano silicon materials. Pursuant to the purchase agreement, the Company is committed to paying to the seller the greater of an annual royalty equal to 10% of net revenues (as defined in the agreement) generated from the exploitation of the acquired technology or the minimum amounts per the agreement. Also, the seller is being granted the right to convert, at any time and at its sole discretion, its royalties into a 50% equity stake of HPQ Nano.

- 2022, 10% of nano silicon materials sales or \$100,000;
- 2023, 10% of nano silicon materials sales or \$150,000;
- 2022 and after, 10% of nano silicon materials sales or \$200,000.

On June 30, 2021, the Company acquired technology for the production of fumed silica materials. Pursuant to the purchase agreement, the Company is committed to pay to the seller the greater of an annual royalty equal to 10% of net revenues, excluding the samples (as defined in the agreement) generated from the exploitation of the acquired technology or the minimum amounts per the agreement. Also, the seller is being granted the right to convert, at any time and at its sole discretion, its royalties into a 50% equity stake of HPQ Polvere.

- 2023, 10% of Fumed Silica materials sales or \$50,000;
- 2024, 10% of Fumed Silica materials sales or \$100,000;
- 2025, 10% of Fumed Silica materials sales or \$150,000;
- 2026 and after, 10% of Fumed Silica materials sales or \$200,000.

As at September 30, 2022, the remaining total commitment for the purchase of the Pilot Plant Equipment was approximately \$3,006,421 of which an amount of \$1,950,000 is a deposit on a contract for the PUREVAP™ QRR.

Subsequent to period's end, 100,000 warrants were exercised for a total amount of \$10,000 in cash.

CRITICAL ACCOUNTING POLICIES

The preparation of annual financial statements under IFRS requires that management use its judgment makes assumptions and estimates and use hypotheses that influence the application of accounting methods, as well as having an effect on the book value of assets, liabilities, revenues and expenses. The final results could differ from these estimates.

The estimates and hypotheses are regularly reviewed. Any revision of accounting estimates is indicated during the period when the estimates are revised as well as any future periods affected by said revisions.

Information on the hypotheses and estimation uncertainties that present an important risk of creating a significant adjustment during the course of the next financial period are as follows:

- Internally generated intangible assets;
- Evaluation of Income Tax Credits receivable;
- Present value of royalties payable.

Management believes that the majority of the changes will be adopted in the Company accounting methods during the first period starting after the effective date of each new change. The information on the new standards and interpretations as well as the new amendments, which are susceptible to be pertinent to the Corporation's consolidated financial statements, are supplied below.

FUTURE ACCOUNTING POLICIES

At the date of these consolidated financial statements, certain new standards, amendments, and interpretations to existing standards have been published but are not yet effective and have not been adopted early by the Company.

Management anticipates that all of the relevant pronouncements will be adopted in the Company's accounting policies for the first period beginning after the effective date of the pronouncement. Certain new standards and interpretations have been issued but are not expected to have a material impact on the Company's consolidated financial statements.

Amendments to IAS 16, Property, Plant and Equipment: Proceeds Before Intended Use

In May 2020, the IASB issued Property, Plant and Equipment: Proceeds before Intended Use, Amendments to IAS 16. This amendment prohibits a company from deducting from the cost of property, plant and equipment amounts received from selling items produced while the company is preparing the asset for its intended use. Instead, a company will recognize such sales proceeds and related costs in profit or loss.

This amendment is applicable to the Company beginning January 1, 2022. Management is currently assessing the impact of the adoption of this amendment, but no significant impact is expected on the Company's financial statements.

IAS 1, Disclosure of Accounting Policies

In February 2021, the IASB issued amendments to IAS 1 to require entities to disclose its material accounting policies instead of its significant accounting policies.

This amendment is applicable to the Company beginning January 1, 2023. The adoption of this amendment is not expected to have a significant impact on the Company's financial statements.

IAS 8, Definition of Accounting Estimates

In February 2021, the IASB issued amendments to IAS 8 to replace the definition of a change in accounting estimate. Under the new definition, accounting estimates are "monetary amounts in financial statements that are subject to measurement uncertainty".

This amendment is applicable to the Company beginning January 1, 2023. The adoption of this amendment is not expected to have a significant impact on the Company's financial statements.

IAS 12, Deferred Tax Related to Assets and Liabilities Arising From a Single Transaction

In May 2021, the IASB issued amendments to IAS 12 to require entities to recognize deferred tax on transactions that, on initial recognition, give rise to equal amounts of taxable and temporary deductible differences.

This amendment is applicable to the Company beginning January 1, 2023. The adoption of this amendment is not expected to have a significant impact on the Company's financial statements.

DISCLOSURE CONTROLS AND PROCEDURES AND INTERNAL CONTROLS OVER FINANCIAL REPORTING

As the Corporation is an emerging issuer, management does not need to attest to the establishment and maintenance of Disclosure Controls and Procedures and internal controls relating to financial information as defined under Regulation 52-109.

The Signing Officers of the Issuer are responsible for ensuring that there are processes in place allowing

them to gather sufficient information for the statements made in the Certificates.

FINANCIAL INSTRUMENTS

Financial Assets used by the Corporation consist of: cash, note receivable, royalties' receivable and the deposit on contract are part of the loans and receivables category.

The financial liabilities of the Corporation include trade and other payables (excluding salaries and personnel-related expenses), the amounts Due to Directors, the amounts due to Directors, Officers and to a corporation held by a director (excluding salaries and Personnel expenses) and royalties payable.

The fair value of royalties' receivables; of due to Directors, Officers and corporations controlled by a director or Officer and the Royalties payable are estimated using an analysis of the discounted cash flows using an interest rate for similar instruments. The fair value of royalties' payable approximates the carrying amount at the end of the period, while the fair value of the due to directors, officers and a corporation held by a director is \$1,007,256.

The fair value of the marketable securities of a quoted company was estimated based on the market price at the balance sheet date. Marketable securities of a quoted company measured at fair value in the consolidated statements of cash flows as at September 30, 2022.

As at September 30, 2022, the Company cash was held in Canadian funds in an interest-bearing account at the Bank of Montreal.

INFORMATION ON SHARE CAPITAL

Information on financings

On September 30, 2022, the Corporation had 348,973,770 shares issued and outstanding (334,792,358 on December 31, 2021), 24,869,600 warrants (24,201,012 as at December 31, 2021) and 17,335,000 Options (17,885,000 as at December 31, 2021). The number of shares on a diluted basis is 391,178,370.

Information on outstanding shares

As at November 29, 2022, the Corporation had 349,073,770 shares issued and outstanding, 24,769,600 warrants and 17,335,000 options. The number of fully diluted shares is 391,178,370. The Corporation's share capital consists of an unlimited number of common shares with No Par Value.

RELATED PARTY TRANSACTIONS

For the period ending on September 30, 2022, the sum of \$262,500 (\$268,750 on December 31, 2021) was accounted for as management fees under a contract between the Corporation and a corporation controlled by the Chairman of the Board as part of a consulting agreement with the Corporation.

These activities are part of the normal course of business for the Corporation and are established based on their exchange value as agreed to by the parties.

Accounts payable and other payables include \$Nil due to officers and a corporation held by a director (\$59,854 as at December 31, 2021).

The Corporation owes to Directors and Officers salaries and remuneration with a nominal value of \$1,117,891. The Corporation has obtained confirmation that payment of an amount of \$1,020,391, under certain conditions, will not be demanded for a minimum of 12 months and one day after September 30, 2022.

RISK FACTORS

Uncertainties about process technology on a commercial basis

The Company's *PUREVAP™ QRR* silicon manufacturing process, the Purevap NSiR silicon nanomaterial transformation process and the Company's fumed silica manufacturing process have not been used commercially by the Company and there can be no assurance that the results obtained in small-scale tests can be replicated in commercial quantities, which could have a material adverse impact on the Corporation's projects. The Company will be required to supply silicon that meets certain specifications. In addition, the Corporation expects the *PUREVAP™ QRR* pilot plant to be commissioned by the end of Q1 2022. The Company's inability to fully commission and produce silicon that meets industry specifications could have a material adverse effect on the Company.

The Company's development of its silicon manufacturing, silicon nanomaterial manufacturing and fumed silica manufacturing processes can be complicated by intellectual property rights held by third parties (also known as freedom-to-operate issues), due to the nature of patents authorized by national patent offices. The Company may be forced to adapt its technology in order to ensure that it does not conflict with intellectual property rights held by third parties. In addition, the Company's ability to successfully challenge the patent rights of third parties depends on national laws and courts, and there can be no assurance that the Company would be able to successfully challenge the patent rights of third parties. In addition, the Company may face increasing competition from technology similar to its own in the future. Such similar technology may pose a threat to the Company and could prevent it from conducting business operations on an economically viable basis.

Increased production costs

Changes in the Company's cost of production could have a material impact on its financial condition and results of operations. Changes in the costs of the Company's manufacturing operations could occur as a result of unforeseen events, including international and local economic and political events, changes in commodity prices, increased costs and labour shortages could result in changes in profitability. Many of these factors may be beyond the Company's control. The Corporation prepares estimates of cash and future capital costs for its operations and projects. There can be no assurance that actual costs will not exceed such estimates. Exceeding cost estimates could adversely affect the Company's results of operations or future financial condition.

Dependence on technology

HPQ will leverage continuous improvement of technology to meet customer demands for performance and cost and to explore other business opportunities. There can be no assurance that the Corporation will succeed in its efforts in this regard or that it will have the resources to meet this demand. Although management anticipates that research and development will enable the Company to explore other business opportunities, there can be no assurance that such business opportunities will be present or realized. The Company's business advantage will depend to a large extent on HPQ's proprietary intellectual property and technology and the Company's ability to prevent others from copying such proprietary technologies.

HPQ currently relies on intellectual property rights and other contractual or proprietary rights, including (without limitation) copyrights, trade secrets, confidential procedures, contractual provisions, licenses and patents, to protect its proprietary technology. HPQ may need to engage in litigation to protect its patents or other intellectual property rights, or to determine the validity or scope of others' proprietary rights. This type of litigation can be costly and time-consuming, whether the Company is successful or not. HPQ may apply for patents or other similar protections with respect to a particular technology. However,

there can be no assurance that any future patent application will actually result in the grant of patents or that, even if patents are granted, they will be of sufficient scope or strength to provide significant protection or commercial advantage to the Company.

In addition, the process of seeking patent protection itself can be lengthy and costly. In the meantime, competitors may develop technologies similar to or superior to HPQ's technology or design from patents held by the Company, thereby negatively affecting the Company's competitive advantage in one or more of its business areas. Despite the Company's efforts, its intellectual property rights may be invalidated, circumvented, challenged, infringed or licensed to third parties. There can be no assurance that the measures the Company may take to protect its intellectual property rights and other rights in these proprietary technologies that are at the heart of the Company's operations will prevent the misappropriation or infringement of its technology.

Infrastructure, supply and inflation

As the company needs to procure the raw materials required for the proper functioning of the RRQ Purevap silicon manufacturing operations, the NSiR Purevap silicon nanomaterial transformation process and the fumed silica manufacturing process, their prices and the price of goods and services will fluctuate depending on the level of investment in the sector. As a result, it is reasonable to expect that increased demand could affect the Corporation's economic projections and future competitiveness, which may result in a significant increase in the cost of various products and services. Improved economic conditions across the technology sector will typically increase the costs of both planned exploration and development activities, which must also be integrated into the economic models used for projections of future development and potential activities. Increased demand for and costs of goods or services could result in delays if they cannot be obtained in a timely manner due to insufficient supply and could cause difficulties with schedule and timelines due to the need to coordinate their availability, which could have a significant impact on research and development and/or construction costs of production plants. These factors could have a material adverse impact on the Company's profitability and operations.

Risks associated with the future sale of products.

The Company is dependent on its future sales of products. Even though the Company has made efforts to date to enter into sales agreements, including offtake agreements, for future sales, there can be no assurance that the Company will be able to sell products on terms and conditions that are sufficiently favourable or necessary to ensure the continuity of its operations.

No warranty can be given that the Company will be able to enter into sales agreements, including offtake agreements, with respect to future sales, and, if applicable, no warranty can be given with respect to the amounts of purchase orders or commitments, the quantity of Silicon represented by such purchase orders and the commitments or the time of their receipt. Factors that may affect orders and commitments include the Company's ability to reliably and consistently produce silicon products in accordance with customer requirements and customer confidence in such capacity, market conditions, demand for products that require Silicon general market conditions and the strength of the economy.

If, for any reason, the Company is unable to produce the Products in accordance with the terms and specifications set forth in any Sales Agreement, such failure or breach of the Agreements, which would effectively result in the termination of the Agreements or the payment of damages, could adversely affect the Company's operations and financial condition. Even if the Company was able to comply with the requirements set out in each of the sales agreements, there can be no assurance that the third parties to the agreements would accept or be able to purchase the production at the prices and quantities set out in the relevant offtake agreement with the Corporation.

Uncertainty in future production estimates

The Company prepares internal estimates and projections for the future production of materials produced with the *PUREVAP™ QRR* Silicon manufacturing process, the Purevap NSiR Silicon Nanomaterials transformation process and the fumed silica manufacturing process. This information is forward-looking and no assurance can be given that any such estimates will be realized. These estimates are based on existing plans and other assumptions that change from time to time, including: mineral reserve and mineral resource estimates; the availability, accessibility, sufficiency and quality of Silicon; the Company's production costs; the Company's ability to maintain and increase production levels; the adequacy of the Corporation's infrastructure; the performance of the Corporation's workforce and equipment; the Corporation's ability to maintain and obtain mineral interests and permits and the Company's compliance with existing and future laws and regulations. The Company's actual production may differ from estimates for a variety of reasons, including: raw material purchase prices; natural phenomena, such as adverse weather conditions, water availability, flooding and seismic activity; and unexpected labour shortages, strikes, opposition or blockades from local communities where manufacturing units could be located. Failure to meet the estimated guidance could adversely affect the Company's cash flows, revenues, results of operations and future financial position.

No income and loss history

Since the Corporation does not generate revenue, it is dependent on future financing to continue its operations or even remain in business. The Company has not generated any revenue since its incorporation. The development of the *PUREVAP™ QRR* silicon manufacturing process, the *PUREVAP™ NSiR* silicon nanomaterial transformation process and the fumed silica manufacturing process are among the Company's business objectives. There is no guarantee that these projects will be commercially viable.

In addition, the Company has no history of profitable operations and there can be no assurance that the Company will ever be profitable. Exceeding cost estimates could adversely affect the Company's results of operations or future financial condition. It incurred net losses in the fiscal years ended December 31, 2019, 2020 and 2021 as well as for the quarter ending September 30, 2022. The Company's management does not anticipate any revenue for future fiscal years and believes that the Company may incur ongoing losses in the near future. There is no guarantee that it will reach a stage of profitability in the short term or at all.

The Corporation's future success will depend in large part on its ability to meet its contractual commitments, which are operationally and financially significant. In general, the Company's revenues will also be influenced by economic conditions and its ability to begin production and to manage its growth.

Negative operating cash flow

The Company has no history of revenues from its operating activities. The Company's cash and cash equivalents were representing approximately \$1,897,196 and \$2,672,696 respectively as of September 30, 2022 and December 31, 2021. During the period ended September 30, 2022 and the year ended December 31, 2021, the Company recorded negative cash flow from its operating activities of \$1,828,243 and \$2,409,635, respectively. For the quarter ended September 30, 2022, the Company had a current liability of \$4,740,180. For the quarter ended September 30, 2022, the Company had an average monthly cash expense rate of approximately \$311,000 per month, including additions to fixed assets, tangible property, facilities and equipment, intangible assets and deposits with suppliers, and any operating expenses and capitalized development costs not covered by grants. The Company expects to maintain negative cash flows from its operating activities in future periods, at least until commercial production begins and profitability is achieved through the production of materials produced with the *PUREVAP™ QRR* Silicon manufacturing process, the *PUREVAP™ NSiR* Purevap silicon nanomaterial

transformation process and the fumed silica manufacturing process. To the extent that the Company has negative cash flows in future periods, the Company may need to allocate a portion of its existing working capital to fund such negative cash flows.

Capital requirements

The development of the *PUREVAP™* QRR silicon manufacturing process, the Silicon to silicon nanomaterials *PUREVAP™* NSiR process and the fumed silica manufacturing process will require significant additional funding. The only sources of funds available to the company are the issuance of additional share capital and borrowing. There is no assurance that such funding will be available, on favorable terms or sufficient to meet needs, which could have a negative impact on the business and its financial position. Failure to obtain sufficient funding can result in delays or even indefinite postponement of technology development work and even loss of ownership in new technologies.

Environmental regulations and requirements

The company's activities require permits from various government authorities and are governed by laws and regulations on production, exports, taxes, labour standards and occupational safety, as well as the environment and other matters.

Additional costs and delays may be caused by the need to comply with laws and regulations. If the company is unable to obtain or renew permits or approvals, it may be forced to reduce or cease its exploration or development activities.

Uninsured risks

The Company's operations are subject to certain risks and hazards, including harsh environmental conditions, industrial accidents, labour disputes, unexpected events, landslides and natural phenomena such as adverse weather conditions, floods and earthquakes. Such events could result in injury or death, environmental or other damage to the Company's or other companies' properties or production facilities, monetary loss, and possible legal liabilities.

Permanence of the company

The future of the company depends on its ability to finance its operations and develop the assets it holds. Failure to obtain sufficient funding may result in the Corporation not being able to continue as a going concern, realize its assets and discharge its liabilities in the normal course of business for the foreseeable future.

Reliance on key personnel and technology partners

The Corporation's success and viability depend to some extent on its ability to attract and retain qualified key management personnel. Competition for such staff is intense and can have an impact on the ability to attract and retain such staff. The loss of any key personnel may have a material adverse effect on the Corporation, its operations and its financial condition. As well, the Company's success and viability depend in some respects on its ability to maintain a good relationship with its priority technology partner, PyroGenesis Canada Inc.

Global Financial Conditions

The Company's financial results are linked to Canadian and global economic conditions. Increased uncertainty regarding regional and global financial stability could result in lower revenues for the Company and decreased credit availability and the Company's ability to raise capital. Global financial conditions continue to be characterized as volatile. In recent years, especially since the recent outbreak of COVID-19, global markets have been negatively impacted by various credit crises. Many industries,

including the technology industry, have been affected by these market conditions. Global financial conditions remain subject to sudden and rapid destabilization in response to future events, as government authorities may face limited resources to respond to future crises. A continued or worsening slowdown in financial markets or other economic conditions, including, but not limited to, consumer spending, employment rates, business conditions, inflation, energy costs, consumer debt levels, lack of available credit, financial market conditions, interest rates and tax rates, may adversely affect the Company's growth and profitability. Future crises can be precipitated by a number of causes, including natural disasters, geopolitical instability, changes in energy prices or sovereign defaults. Should increased levels of volatility continue or in the event of a rapid destabilization of global economic conditions, this could have a material adverse effect on commodity prices, demand for metals, availability of credit, investor confidence and general liquidity in financial markets, which could have a negative impact on the Company's operations and the Company's stock prices.

Public health crisis

The global financial environment and the global economy in general have, at various times in the past and may experience extreme volatility in the future, in response to economic shocks or other events, such as the recent COVID-19 respiratory illness pandemic. Many industries are affected by market volatility in response to the widespread emergence of epidemics, pandemics or other health crises. Among the main impacts of these conditions are devaluations and high volatility in global financial, commodity and currency markets, as well as a lack of market confidence and liquidity. Financial institutions and large corporations can go bankrupt or be rescued by government authorities. Access to finance may also be negatively affected by future liquidity crises around the world. These factors may affect the Company's ability to obtain equity or debt financing and, if applicable, to obtain such financing on terms favorable to the Company. Increased levels of volatility and market turbulence could have a material adverse impact on the Company's business and anticipated growth and the trading price of its securities could be adversely affected.

The international response to the spread of COVID-19 has resulted in significant travel restrictions, temporary business closures, quarantines and an overall reduction in consumer activity. In particular, the continued global spread of COVID-19 could have a significant and adverse impact on the Company's business, including, but not limited to, employee health, workforce availability and productivity, travel restrictions, supply chain disruptions, increased insurance premiums, the availability of industry experts and personnel and other factors that depend on future developments beyond the Company's control.

While the Company is implementing business continuity measures and government recommendations to mitigate and reduce any potential impact related to COVID-19 on its operations, operations, supply chain and financial condition, the spread of COVID-19 could have a material negative impact on the Company's workforce and the development of these technology projects. Despite COVID-19, the Company continues to develop these technology projects through remote work solutions with its management team, employees, consultants and business partners, as well as government representatives. The magnitude and impacts of COVID-19 on the Company's operations cannot currently be determined as they depend on future developments that cannot be predicted, including but not limited to the duration of the pandemic, the severity of the virus and the ability to treat it, the ability to collect sufficient data to track the virus, and the collective measures taken to curb the spread of the virus.

Forward-Looking Statements

By their nature, forward-looking statements involve numerous known and unknown assumptions, risks and uncertainties, both general and specific, that could cause actual results to differ materially from those

implied by the forward-looking statements or contribute to the possibility that predictions, forecasts or projections may prove materially inaccurate.

Shareholder activism

In recent years, publicly traded companies have been the subject of increasing demands from activist shareholders for changes in corporate governance practices, such as executive compensation practices, social issues or certain corporate actions or reorganizations. There can be no assurance that activist shareholders will not publicly request the Company to make certain governance changes or engage in certain corporate actions.

Responding to activist shareholder challenges, such as proxy races, media campaigns or other activities, could be costly, time-consuming and negatively impact the Company's reputation and divert attention and resources from management and the Board of Directors, which could adversely affect the Company's business and results of operations. Even if the Company undertakes to make such corporate governance changes or corporate actions, activist shareholders may continue to promote or attempt to make other changes and may attempt to acquire control of the Company to implement such changes. If activist shareholders seeking to increase short-term shareholder value are elected to the Company's Board of Directors, this could have a negative effect on the Company's future operations and activities. In addition, shareholder activism could create uncertainty about the Company's future strategic direction, resulting in the loss of future business opportunities, which could have a negative impact on the Company's business, future operations, profitability and ability to attract and retain qualified personnel.

Disclosure and Internal Control

Internal control over financial reporting is a process designed to provide reasonable assurance as to the reliability of financial information and the preparation of financial statements for external purposes in accordance with IFRS. Disclosure controls and procedures are designed to ensure that the information required by the Corporation to disclose in reports filed with securities regulators is recorded, processed, summarized and disclosed in a timely manner, and is accumulated and reported by the Corporation's management, as appropriate, to enable required decisions to be made in a timely manner. The Corporation has invested resources to document and analyze its system of disclosure controls and internal control over financial reporting. A system of control, no matter how well designed and operated, can only provide reasonable, not absolute, assurance as to the reliability of financial information and the preparation of financial statements. The Company's failure to meet the requirements of applicable Canadian securities laws on an ongoing and timely basis could result in a loss of investor confidence in the reliability of the Company's financial statements, which could adversely affect its operations and adversely affect the price of the Common Shares. In addition, any failure to implement or difficulties in implementing the required new or enhanced controls could adversely affect the Company's results of operations or prevent it from meeting its reporting obligations.

(s) Bernard Tourillon, President and Chief Executive Officer

(s) François Rivard, Chief Financial Officer

Montreal, November 29, 2022