UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

FORM 6-K

REPORT OF FOREIGN PRIVATE ISSUER PURSUANT TO RULE 13a-16 OR 15d-16 UNDER THE SECURITIES EXCHANGE ACT OF 1934

For the month of June 2023

Commission File Number: **001-39989**

PYROGENESIS CANADA INC.
(Translation of registrant's name into English)

1744, William St. Suite 200
Montreal, QC, H3J1R4
Canada
(Address of principal executive office)

Indicate by check mark whether the registrant files or will file annual reports under cover of Form 20-F or Form 40-F.
Form 20-F [ ] Form 40-F [X]

On June 1, 2023, the Registrant issued a press release, a copy of which is attached hereto as Exhibit 99.1 and is incorporated herein by reference.

EXHIBIT INDEX

Exhibit Number	Description
99.1	Press Release dated June 1, 2023

SIGNATURES

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

PYROGENESIS CANADA INC.
(Registrant)

Date: June 1, 2023

/s/ P. Peter Pascali
P. Peter Pascali
Chief Executive Officer

EXHIBIT 99.1

Important Achievement in Silicon Production Process for HPQ Silicon Using PyroGenesis' PUREVAP Quartz Reduction Reactor

MONTREAL, June 01, 2023 (GLOBE NEWSWIRE) -- PyroGenesis Canada Inc. (http://pyrogenesis.com) (TSX: PYR) (NASDAQ: PYR) (FRA: 8PY), a TSX30® and a Deloitte Canada Clean Technology Fast 50™ high-tech company (the "Company" or "PyroGenesis") that designs, develops, manufactures and commercializes advanced plasma processes and sustainable solutions which are geared to reduce greenhouse gases (GHG), confirms that, as announced earlier today by HPQ Silicon ("HPQ"), the *PUREVAP™ Quartz Reduction Reactor* (QRR) designed and built by PyroGenesis achieved successful laboratory validation of quartz to high-purity 3N+ silicon in one step.

As noted in HPQ's news release, the results of an analysis of recent test samples from PyroGenesis' PUREVAP QRR process carried out by Balazs NanoAnalysis (a division of Air Liquide Electronics), a global high-tech analytical laboratory, confirmed that the PUREVAP QRR produced silicon from quartz in a single step with a purity exceeding 3N+ (99.92%).

"We are pleased to confirm the test results announced earlier today by HPQ", said Mr. P. Peter Pascali, CEO and President of PyroGenesis. "Collaboratively with HPQ, we have been working towards this goal for quite some time, and now with these independent test results our shared goal of creating a process that simplifies and optimizes the production of high purity silicon has been achieved."

"The implications of a one-step process in the manufacturing of high purity silicon direct from quartz is significant, both from a cost benefit perspective as well as from a critical mineral optimization perspective," continued Mr. Pascali. "This presents PyroGenesis with a unique and exciting commercial opportunity highlighted by (i) the strategic investment we have in HPQ, (ii) the possibility that HPQ will require additional PUREVAP QRR systems as a result of these findings, and last but not least (iii) our 10% royalty payment on HPQ's eventual sales of the improved silicon."

While the results of the analysis are highly encouraging, there is no timeline in terms of when HPQ will be in a position to produce the improved silicon on a large commercial scale. Working with PyroGenesis, HPQ will now carry out final adjustments, smaller tests, and a subsequent engineering study to determine the profitability of producing the improved silicon on a larger scale. Subject to this additional testing and planning, HPQ will then determine the number of PUREVAP QRR systems required for the construction of a full commercial plant. As noted previously, HPQ believes that, based on what is known today, at least two PUREVAP QRR systems, with each reactor capable of producing 2,500 MT of high-purity silicon per year, would be required. PyroGenesis and HPQ have estimated the cost of each PUREVAP QRR system to be at least $20 million.

PyroGenesis' involvement in the development of high-purity silicon from quartz is part of PyroGenesis' three-tiered solution ecosystem that aligns with economic drivers that are key to global heavy industry. High-purity silicon is part of PyroGenesis' Commodity Security & Optimization tier, where the recovery of viable metals, and the optimization of production to increase output, helps to maximize raw materials and improve the availability of critical minerals. Silicon has been identified as a critical mineral by many governments worldwide.

About HPQ Silicon

HPQ Silicon Inc. (TSX-V: HPQ) is a Quebec-based innovative silicon solutions company that offers innovative silica (SiO_2), silicon (Si) based solutions and is developing a unique portfolio of high value-added silicon (Si) products sought after by battery and electric vehicle manufacturers.

Silicon (Si), also known as silicon metal, is one of today's key strategic materials needed for the decarbonization of the economy and the Renewable Energy Revolution ("RER"). However, silicon does not exist in its pure state and must be extracted from quartz (SiO_2) in what has historically been a capital and energy-intensive process.

With PyroGenesis, HPQ is developing:

1. the ***PUREVAP™ "Quartz Reduction Reactors" (QRR)***, an innovative process (patent pending), which will permit the one-step transformation of quartz (SiO_2) into high purity silicon (Si) at reduced costs, energy input, and carbon footprint that will propagate its considerable renewable energy potential**.**
2. Through its 100% owned subsidiary, HPQ NANO Silicon Powders Inc., the ***PUREVAP™ Nano Silicon Reactor (NSiR)*** is a new proprietary process that can use material produced by the QRR as feedstock, to make a wide range of nano/micro spherical powders of different sizes and nanowires.
3. Through its second 100% owned subsidiary, HPQ Silica POLVERE Inc., HPQ is developing a new plasma-based process that will 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 (HCI) associated with its manufacturing.

About PyroGenesis Canada Inc.

PyroGenesis Canada Inc., a high-tech company, is a proud leader in the design, development, manufacture and commercialization of advanced plasma processes and sustainable solutions which reduce GHG and are economically attractive alternatives to conventional “dirty” processes. PyroGenesis has created proprietary, patented and advanced plasma technologies that are being vetted and adopted by multiple multibillion dollar industry leaders in four massive markets: iron ore pelletization, aluminum, waste management, and additive manufacturing. With a team of experienced engineers, scientists and technicians working out of its Montreal office, and its 3,800 m^2 and 2,940 m^2 manufacturing facilities, PyroGenesis maintains its competitive advantage by remaining at the forefront of technology development and commercialization. The operations are ISO 9001:2015 and AS9100D certified, having been ISO certified since 1997. For more information, please visit: www.pyrogenesis.com.

Cautionary and Forward-Looking Statements

This press release contains “forward-looking information” and “forward-looking statements” (collectively, “forward-looking statements”) within the meaning of applicable securities laws. In some cases, but not necessarily in all cases, forward-looking statements can be identified by the use of forward-looking terminology such as “plans”, “targets”, “expects” or “does not expect”, “is expected”, “an opportunity exists”, “is positioned”, “estimates”, “intends”, “assumes”, “anticipates” or “does not anticipate” or “believes”, or variations of such words and phrases or state that certain actions, events or results “may”, “could”, “would”, “might”, “will” or “will be taken”, “occur” or “be achieved”. In addition, any statements that refer to expectations, projections or other characterizations of future events or circumstances contain forward-looking statements. Forward-looking statements are not historical facts, nor guarantees or assurances of future performance but instead represent management’s current beliefs, expectations, estimates and projections regarding future events and operating performance.

Forward-looking statements are necessarily based on a number of opinions, assumptions and estimates that, while considered reasonable by the Company as of the date of this release, are subject to inherent uncertainties, risks and changes in circumstances that may differ materially from those contemplated by the forward-looking statements. Important factors that could cause actual results to differ, possibly materially, from those indicated by the forward-looking statements include, but are not limited to, the risk factors identified under “Risk Factors” in the Company’s latest annual information form, and in other periodic filings that the Company has made and may make in the future with the securities commissions or similar regulatory authorities, all of which are available under the Company’s profile on SEDAR at www.sedar.com, or at www.sec.gov. These factors are not intended to represent a complete list of the factors that could affect the Company. However, such risk factors should be considered carefully. There can be no assurance that such estimates and assumptions will prove to be correct. You should not place undue reliance on forward-looking statements, which speak only as of the date of this release. The Company undertakes no obligation to publicly update or revise any forward-looking statement, except as required by applicable securities laws.

Neither the Toronto Stock Exchange, its Regulation Services Provider (as that term is defined in the policies of the Toronto Stock Exchange) nor the NASDAQ Stock Market, LLC accepts responsibility for the adequacy or accuracy of this press release.

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