



GEN3 PUREVAP™ QRR PILOT PLANT UPDATE PROCESS VALIDATION CONTINUES MOVING FORWARD

MONTREAL, Canada, May 4th, 2023 — [HPQ Silicon Inc.](#) (“HPQ” or the “Company”) ([TSX-V: HPQ](#)) ([OTCQX: HPQFF](#)) ([FRA: O08](#)), a technology company engaged in green engineering processes for producing silica and silicon material, would like to inform shareholders of the latest QRR process testing takeaways following the completion of Test #5 under Test Series #1 – last week.

Technology provider [PyroGenesis Canada Inc.](#) ([TSX: PYR](#)) ([NASDAQ: PYR](#)) ([FRA: 8PY](#)) (“Pyrogenesis”) informed HPQ that:

- All data gathered during process improvement tests done on the Gen3 QRR pilot plant (“Pilot Plant”); following tests #1 through 4, have made the system more stable and predictable for use in the production of 2N+ Silicon; which is the best commercially available purity in the market.
- During test #5, the Pilot Plant was successfully powered up to the required operating state, and as usual, feedstock was loaded into the system. After this, 4 production cycles were completed resulting in the production of a large liquid silicon bath at the bottom of the reactor. This validated the system’s semi-continuous batch production mode.
- Going forward, testing will focus on improving silicon production yield (Test Series #2), and final purity to reach the purity-percentage needed by battery manufacturers and for use in other high-value applications (Test Series #3).

“The achievements reached to date, demonstrates the effectiveness of process improvement tests and the dedication of the team working on the Gen3 QRR pilot plant project,” said Mr. Bernard Tourillon, President and CEO of HPQ Silicon Inc. *“The successful completion of the production cycles during test #5 validates the semi-continuous batch production mode of the system, indicating a promising future for the production of 2N+ Silicon. The team’s focus on improving silicon production yield and final purity in Test Series #2 and #3 shows their commitment to continuously improving and delivering high-value products to their customers.”*

Test #5 presented us with a challenge when an unexpected electrical malfunction occurred just as we were preparing to pour the melted silicon. However, we approached this setback proactively, and our team swiftly implemented measures to address the issue.

While the cause of the malfunction was quickly identified and fixed, the reactor must cool down before we can recover the silicon at the bottom. But we have a clear plan for what comes next. We will send some of the material to an outside laboratory for purity testing and send silicon chunks to Novacium for further evaluation as battery material, specifically micron-sized Si and SiOx powders.

The reactor is also being inspected and prepared for the next test; Test #1 (under Test Series #2), tentatively scheduled for the second week of May 2023.

“This unexpected hiccup does not affect the testing campaign which is still underway as we continue to modernize how Silicon and High Purity Silicon is produced; something that has not yet been achieved in over 100 years,” added Mr. Tourillon.



About PyroGenesis Canada Inc.

PyroGenesis Canada Inc., a high-tech company, is a leader in the design, development, manufacture and commercialization of advanced plasma processes and sustainable solutions which reduce greenhouse gases (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 three 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 m² and 2,940 m² R&D and 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

About HPQ Silicon

[HPQ Silicon Inc.](#) (TSX-V: HPQ) is a Quebec-based TSX Venture Exchange Tier 1 Industrial Issuer.

HPQ is developing, with the support of world-class technology partners [PyroGenesis Canada Inc. \(TSX: PYR\)](#) ([NASDAQ: PYR](#)) and [NOVACIUM SAS](#), new green processes crucial to make the critical materials needed to reach net zero emissions.

HPQ activities are centred around the following five (5) pillars:

- 1) Becoming a green low-cost (Capex and Opex) producer of High Purity Silicon (2N+ to 4N) using our proprietary **PUREVAP™ “Quartz Reduction Reactors” (QRR)** being developed by PyroGenesis.
- 2) Becoming North America’s first producer of micron size High Purity Silicon (3N & 4N) powders with the assistance of NOVACIUM SAS.
- 3) Working to become the first producer of nano silicon materials from High Purity Silicon chunks using our proprietary **PUREVAP™ Nano Silicon Reactor (NSiR)** being developed by PyroGenesis.
- 4) Becoming a green low-cost (Capex and Opex) producer of Fumed Silica using our proprietary **FUMED SILICA REACTOR** being developed by PyroGenesis.
- 5) Developing a small and compact process for the on-demand production of hydrogen via hydrolysis of Silicon and other materials.

For more information, please visit [HPQ Silicon web site](#).

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Source: HPQ Silicon Inc.

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