

HPQ SILICON SIGNS NDA AND RECEIVES REQUEST FOR 4N SILICON MATERIAL SAMPLES FROM A WORLD LEADING HIGH-PERFORMANCE MATERIALS COMPANY

MONTREAL, Canada, Feb. 8, 2022 — [HPQ Silicon Resources Inc.](#) (“HPQ” or the “Company”) ([TSX-V: HPQ](#)) ([OTCQX: HPQFF](#)) ([FWB: UGE](#)), an innovative silicon solutions and technology development company, is pleased to announce that HPQ and technology provider [PyroGenesis Canada Inc.](#) ([TSX: PYR](#)) ([NASDAQ: PYR](#)) ([FRA: 8PY](#)) have signed a non-disclosure agreement (“NDA”) with a world leading high-performance material company (“HPMC”) for the purposes of preparing 4N silicon (Si) material samples. HPQ will make the dedicated samples using material produced by the *PUREVAP™ Quartz Reduction Reactor (QRR)* pilot plant, which is scheduled to start at the end of Q1. For industry competitive reasons and in accordance with terms of the NDA, the identity of the HPMC and other parties involved must remain confidential, however HPQ can divulge that the 4N Silicon material will be tested for usage as potential feedstock for the manufacturing of silicon nitride (Si₃N₄) ceramics.

4N SILICON NEEDED AS FEEDSTOCK TO MAKE SILICON NITRIDE (Si₃N₄) CERAMICS

In 2018, Apollon Solar advised HPQ that Silicon nitride (Si₃N₄) was one of the specialty materials that needed 4N Silicon in its manufacturing. Silicon nitride is a refractory material, meaning it is chemically inert and can resist extremely high temperatures. It is used in advanced high-tech materials to make robust components with very specific requirements as these advanced materials must be electrical insulators, resistant to wetting by non-ferrous metal melts, and able to withstand corrosive and high wear environments, high mechanical stresses and thermal shock. Most important, these properties must be maintained at high temperatures.

For example, in NASA’s Space Shuttle project, silicon nitride spheres were used as low-friction ball bearings in the equipment which supplied the main engines with cryogenic liquid hydrogen and liquid oxygen, the rocket’s propellants. These bearings outperformed traditional equivalents, boasting lower friction, lighter weight, better longevity, and less lubrication needed. Today, they can be found in more terrestrial settings, such as wind turbines, bicycles, and high-end cars. Silicon Nitride manufacturers are seeking ways to reduce powder processing costs to speed adoption of this remarkable material.

“We were approached by a representative of the high-performance material company seeking samples of our 4N silicon material to test as feedstock to make silicon nitride ceramics. This is just one example of the many niche market applications that production from our PUREVAP™ QRR process can potentially supply” said Bernard Tourillon, President and CEO HPQ Silicon. *“High Purity Silicon’s (4n+) potential is undeniable and generating serious industry interest, so our timing could not be better as this sample request from the HPMC confirms awareness of our unique silicon production capabilities at the highest enterprise levels across the world. Nonetheless, we are still in the early stages and will continue to apply the methodical approach that has put us in this position, with this sample request confirming the potential for new and exciting advances by HPQ in the high purity silicon space.”*

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 Resources

[HPQ Silicon Resources Inc. \(TSX-V: HPQ\)](#) is a Quebec-based innovative silicon solutions company that offers silica (SiO₂) and 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 (SiO₂) in what has historically been a capital and energy-intensive process.

With [PyroGenesis Canada Inc. \(TSX: PYR\)](#) ([NASDAQ: PYR](#)), HPQ is developing:

1. the **PUREVAP™ "Quartz Reduction Reactors" (QRR)**, an innovative process (patent pending), which will permit the one-step transformation of quartz (SiO₂) 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 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 Gas (HCl) associated with its manufacturing.

HPQ is also a technology development company interested in developing hydrogen-based ventures, that could be complementary to the QRR efforts. Currently, HPQ is evaluating two different approaches to reach this goal, those being:

1. Working with Swiss based company EBH2 Systems SAS as it pertains to their proprietary process to manufacture Green Hydrogen via electrolysis, and
2. Developing our own processes of making hydrogen via hydrolysis of nanosilicon materials made by our **PUREVAP™ (NSiR)**.

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

Disclaimers:

The Corporation's interest in developing the PUREVAP™ QRR and any projected capital or operating cost savings associated with its development should not be construed as being related to the establishing the economic viability or technical feasibility of any of the Company's Quartz Projects.

This press release contains certain forward-looking statements, including, without limitation, statements containing the words "may", "plan", "will", "estimate", "continue", "anticipate", "intend", "expect", "in the process" and other similar expressions which constitute "forward-looking information" within the meaning of applicable securities laws. Forward-looking statements reflect the Company's current expectation and assumptions and are subject to a number of risks and uncertainties that could cause actual results to differ materially from those anticipated. These forward-looking statements involve risks

and uncertainties including, but not limited to, our expectations regarding the acceptance of our products by the market, our strategy to develop new products and enhance the capabilities of existing products, our strategy with respect to research and development, the impact of competitive products and pricing, new product development, and uncertainties related to the regulatory approval process. Such statements reflect the current views of the Company with respect to future events and are subject to certain risks and uncertainties and other risks detailed from time-to-time in the Company's ongoing filings with the security's regulatory authorities, which filings can be found at www.sedar.com. Actual results, events, and performance may differ materially. Readers are cautioned not to place undue reliance on these forward-looking statements. The Company undertakes no obligation to publicly update or revise any forward-looking statements either as a result of new information, future events or otherwise, except as required by applicable securities laws.

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Source: HPQ Silicon Resources Inc.

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