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HPQ LATEST GEN2 PROGRESS REPORT CONFIRMS PUREVAP™ QRR ABILITY TO CONVERT LOW PURITY QUARTZ INTO 4N+ SILICON METAL, IN ONE STEP, AT COMMERCIAL SCALE

HPQ Silicon Resources Inc. (HPQ) (TSX-V “HPQ”) is pleased to announce the receipt of a progress report from PyroGenesis Canada Inc (“PyroGenesis”) (TSX Venture: PYR) describing the latest significant milestones reached during *Gen2 testing of the PUREVAP™ Quartz Reduction Reactor (“QRR”)*. Key takeaways from the report are summarized below.

GEN2 PUREVAP™ TESTS SUCCESSFULLY CONFIRMS THE SCALABILITY OF PUREVAP™ QRR PROCESS

2018 *Gen2 PUREVAP™ Commercial Scalability Proof of Concept* tests confirmed the *PUREVAP™ QRR* could operate under a semi-continuous mode (January 15, 2018 release). Next, additional process improvements and design modifications to Gen 2 were tested, and demonstrated that semi-continuous operation improves the *PUREVAP™ QRR Production Yield*¹. Scaling up from Gen1 to Gen2 in semi-continuous mode, production yield increased from ~ 1% to 34% (February 15 and April 19, 2018 releases).

99.83% TOTAL IMPURITY REMOVAL EFFICIENCY REACHED DURING GEN2 PUREVAP™ TESTING

While mostly focussed on testing components and processes for the final design of *Gen3 PUREVAP™*, the *Gen2* testing also demonstrated that production yield is crucial to the final purity of the Silicon Metal (Si) produced by the *PUREVAP™*.

A *Gen2 PUREVAP™* test provided **17.9%** production yield and **99.83%** total impurity removal efficiency² compared to a *Gen1* test under similar operating conditions, that provided 3% production yield and 97.14 % total impurity removal efficiency. PyroGenesis³ was able to validate that production yield does play an important role in the impurity removal efficiency of the process and final purity of Si.

Mr. Bernard Tourillon, President and CEO of HPQ Silicon Resources Inc stated: *“The one step impurities removal capacity of the PUREVAP™ QRR and its direct impact on the final purity of the PUREVAP™ Si is the key milestone that will allow HPQ, working with PyroGenesis and Apollon Solar, to develop a low cost and green metallurgical process to produce Solar Grade Silicon Metal (SoG-Si). The fact that, as expected, Gen2 testing replicated and improved Gen1 results is a major milestone that bodes well for the future as we get ready to start, mid-2019, the Gen3 commercial scalability testing phase, aimed at demonstrating the PUREVAP™ QRR commercial potential”.*

HPQ PUREVAP™ PATHWAYS TO PRODUCE SOLAR GRADE SILICON METAL PASSES MAJOR MILESTONE

Using data from both *Gen1* and *Gen2* tests, PyroGenesis repeated the 2017 extrapolation exercise and concluded that, even using low purity feedstock (98.84% SiO₂), the carbothermic part of the *PUREVAP™ QRR* process should allow HPQ to reach the 4N+ Si (99.99+% Si) purity threshold, assuming a production yield of +90% (or commercial scale production yield of traditional Metallurgical Grade Si (MG-Si) smelters (98.5% - 99.5% Si)).

¹ Production Yield of the process is the conversion efficiency of Si element in the raw material (i.e. Quartz) into elemental Silicon Metal

² Capacity of the process to volatilize impurities from raw material (Quartz or SiO₂ and Carbon) while making Si

³ PyroGenesis Canada Inc. Technical Memo: “TM-2018-894 REV 00, - Final Report”



These results exceed 2017 Gen1 base extrapolations that indicated then that the carbothermic part of the PUREVAP™ QRR process could only reach the 3N+ Si (99.9+% Si) threshold using low purity feedstock (98.84% SiO₂)⁴, and furthermore this required a 100% production yield (November 1, 2017 release).

Mr. Bernard Tourillon, President and CEO of HPQ Silicon Resources Inc further stated: *“Having a process capable of producing 4N+ Silicon Metal in one step is, according to Apollon Solar, one of the most unique and potentially the greatest advantage of the PUREVAP™ QRR process as we strive to develop a low cost and green metallurgical process to produce Solar Grade Silicon Metal (SoG-Si)”*.

Pierre Carabin, Eng., M. Eng., Chief Technology Officer and Chief Strategist of PyroGenesis has reviewed and approved the technical content of this press release.

This News Release is available on the company's [CEO Verified Discussion Forum](#), a moderated social media platform that enables civilized discussion and Q&A between Management and Shareholders.

About HPQ Silicon

HPQ Silicon Resources Inc. is a TSX-V listed resource company focuses on becoming a vertically integrated and diversified High Purity, Solar Grade Silicon Metal (SoG Si) producer and a manufacturer of multi and monocrystalline solar cells of the P and N types, required for production of high performance photovoltaic conversion.

HPQ's goal is to develop, in collaboration with industry leaders, PyroGenesis (TSX-V: PYR) and Apollon Solar, that are experts in their fields of interest, the innovative PUREVAP™ “Quartz Reduction Reactors (QRR)”, a truly 2.0 Carbothermic process (patent pending), which will permit the transformation and purification of quartz (SiO₂) into high purity silicon metal (Si) in one step and reduce by a factor of at least two-thirds (2/3) the costs associated with the transformation of quartz (SiO₂) into SoG Si. The pilot plant equipment that will validate the commercial potential of the process is on schedule to start mid-2019.

Disclaimers:

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 on-going filings with the securities 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.

⁴ Pyrogenesis Canada Inc. Technical Memo: “TM-2017-830 REV 00, - Final Report-Silicon Metal Purity Enhancement”



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