HPQ Silicon Resources Inc.: Progress Report Confirms That GEN 2 PUREVAP™ Can Successfully Operate Under Vacuum In Semi-Continuous Feed Mode

written by Raj Shah | January 16, 2018

January 15, 2018 (Source) – **HPQ Silicon Resources Inc.** ("HPQ") (TSX VENTURE:HPQ)(FRANKFURT:UGE)(OTC PINK:URAGF) is pleased to inform shareholders that PyroGenesis Canada Inc (PyroGenesis) has submitted a first progress report on results from the *Gen 2 PUREVAP™ Quartz Reduction Reactor ("QRR")* test work. The Gen 2 PUREVAP™ reactor is operating as designed, and yielding results that are in line with expectations. This is extremely promising for the PUREVAP™ ongoing development as process improvements and design modifications continue to be implemented.

GEN 2 RESULTS START DEMONSTRATING COMMERCIAL SCALABILITY OF *PUREVAP™ QRR*

Key milestones to date:

- Gen 2 PUREVAP™ has operated in semi-continuous feed mode under vacuum, over ever increasing time intervals;
- Gen 2 PUREVAP™ completed 4 operating feed cycles, over 10-12 hours of operation;
- Gen 2 PUREVAP™ can reach and, more importantly, maintain, the temperature ranges required for optimum operational

parameters;
- Gen 2 PUREVAP™ is achieving significantly higher production yield 5.7 times more (+469%) and production rate 23 times more (+2,259 %) compared to peak Gen 1 PUREVAP™ performance under similar testing conditions.

Very promising output results have also been attained:

- The largest individual sample of Si produced to date with the Gen 2 PUREVAP™ is 8.5 grams; 8 times more massive than the maximum produced with Gen 1 PUREVAP™;
- The total mass of Si produced during one Gen 2 PUREVAP™ test is 11.5 times greater than the average of the top 20 GEN 1 PUREVAP™ tests.

Bernard J. Tourillon, Chairman and CEO of HPQ Silicon stated, *"Our methodical approach is producing exciting results as we successfully transition from a static lab scale under vacuum to a semi-continuous operating mode under vacuum, with enormous improvements in production. The market so far has not yet comprehended the scope of what has been accomplished, in the lab, and in our breakthrough agreement with Apollon Solar announced in December. Our objective in 2018 is to continue to build on our technical successes and commence the Pilot Plant phase with our 'Solar Silicon Team' of PyroGenesis and Apollon Solar, and to build market awareness. The addition of Apollon Solar to our technical team will allow further refinements to the silicon purification and testing of the numerous process improvements now planned for the Pilot Plant. We have started de-risking our project and our ongoing tests are providing valuable information as we continue to implement the adjustments needed to produce the Solar Grade Silicon Metal that will allow the manufacturing of multi and monocrystalline solar cells for high performance photovoltaic conversion."*

"We are pleased to join HPQ in announcing this significant

milestone with respect to the scaling up of the PUREVAP™ process," said P. Peter Pascali, President and CEO of PyroGenesis. "PyroGenesis has a track record of successfully taking new concepts from lab to commercialization. This is clearly demonstrated by our PAWDS waste destruction technology, which has been adopted by the US Navy, and more recently our proprietary Drosrite system, which has become a commercial phenomenon in its own right. We believe that simultaneously converting Quartz into High Purity Silicon Metal using a plasma arc within a vacuum furnace in a semi-continuous feeding mode is the beginning of another such success."

KEY MILESTONES MOVING FORWARD

Milestones of the GEN 2 PUREVAP™ program in 2018 are:

- Tapping Silicon Metal from the Gen 2 PUREVAP™;
- Increasing production yield of Gen 2 PUREVAP™ over multiple test cycles from low grade feedstock;
- Increasing production yield of Gen 2 PUREVAP™ over multiple test cycles from high grade feedstock;
- Testing the Purity of the Si produced and implement additional methods to increase the final purity of the Si produced;
- Testing electrical parameters of the High Purity Si;
- Provide data to demonstrate the economics of PUREVAP™ QRR;
- Adapt the methods and processes developed in GEN 2 PUREVAP™ to the final design and assembly of the Pilot Plant equipment.

Pierre Carabin, Eng., M. Eng., has reviewed and approved the technical content of this press release.

This Press 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. La version française du communiqué de presse est disponible sur http://www.hpqsilicon.com.

About HPQ Silicon

HPQ Silicon Resources Inc. is a TSX-V listed resource company planning to become 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 goal is to develop, in collaboration with industry leaders that are experts in their fields of interest, the innovative metallurgical PUREVAP™ "Quartz Reduction Reactors (QRR)" process (patent pending), which will permit production of the highest efficiency SoG Si. The pilot plant equipment that will validate the commercial potential of the process is on schedule for 2018.

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.

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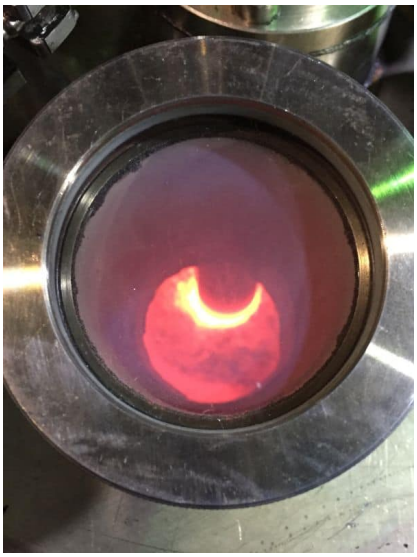
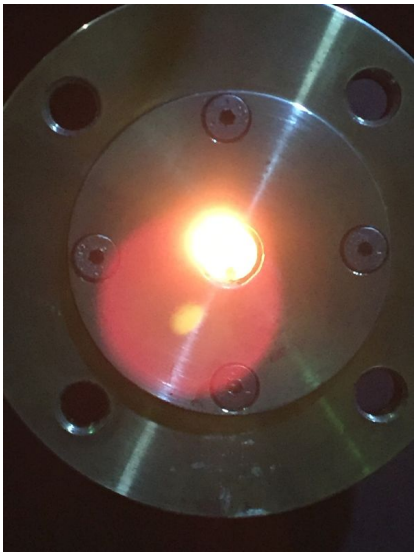
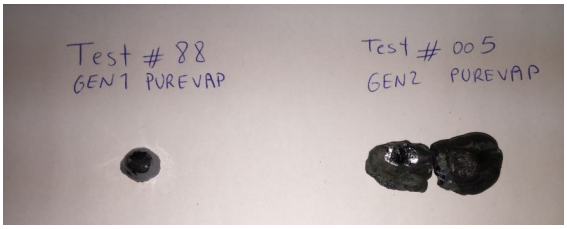


GEN 2 PUREVAP(TM) in operation: Inside view of Reactor (Top)



GEN 2 PUREVAP(TM) in operation: Inside view of the Reactor, (Top-hole opened)



GEN 2 PUREVAP(TM) in operation: Isolated Si Chunk size comparison of samples produced by Gen 1 (Left) and Gen 2 (right)