Sixth Wave Innovations Inc. Reports Positive Test Results on Innovative Flow Sheet for Champlain Mineral Ventures Ltd. Brazil Lake Lithium Deposit

written by Raj Shah | January 19, 2023

January 19, 2023 (Source) – **Sixth Wave Innovations Inc. (CSE: SIXW) (OTCQB: SIXWF) (FSE: AHUH) ("Sixth Wave"**, "**SIXW**" or the "**Company**"), a leader in nanotechnology for precious metal and critical minerals mining, is pleased to report on extraction and recovery of lithium from spodumene found at the Champlain Mineral Ventures Ltd. ("CMVL") Brazil Lake property. The focus of the work has been to develop a greener process for conversion of spodumene from alpha to leachable beta spodumene and simplify the process flow sheet to achieve battery grade lithium carbonate. Key objectives are to lower energy costs and utilize safer and greener reagents. Fewer process steps reduce the environmental impact of processing lithium bearing spodumene.

The Company completed initial baseline testing of conventional processing using calcination for spodumene conversion and comparison of a conventional sulfuric acid leaching and an improved version of flow sheet utilizing a sodium carbonate solution for leaching. Conventional processing showed adequate recovery to baseline results for a competitive comparison of advanced pathways being developed by Sixth Wave.

Pathways under development include:

- A low-risk pathway focused on a modified flow sheet using pressure leaching with sodium carbonate has shown excellent results to date.
    - Leaching efficiencies of between 95-100% have been achieved
    - relatively low autoclave temperature (230C) and
    - short leaching time (60min).
    - Single-pass lithium recovery levels in excess of 74%
    - final lithium carbonate purity levels nearing 98%.

- Process improvements under way to achieve greater than 90% total lithium recovery to lithium carbonate.
- Developed prototypes of a functionalized ion exchange resin to polish lithium carbonate achieving 2% additional purity.

In summary, the Company has moved significantly forward in elimination and minimized use of toxic reagents and simplifying the process flow sheet while providing a competitive and commercially viable process to battery grade lithium carbonate production.

Next steps in the work include continued simplification of the flow sheet to take advantage of lower energy technologies, such as microwave, to convert the spodumene and combining the conversion and leaching steps to further reduce OPEX and CAPEX. In addition, the Company is exploring other unique non-toxic and biodegradable lixiviants targeted toward lithium. While there is some early work to draw on the Company believes that it is developing protectable new intellectual property both in processes as well as fundamental extraction and purification technology.

Sixth Wave and CMVL are committed to sustainable mining and high

Environmental, Social, and Governance (ESG) standards. The Company acquired all rights to an emerging class of "green lixiviants" that have direct application to hard-rock lithium mining Green lixiviants garner attention due to their unique properties that are inherently non-toxic, biodegradable with negligible or no vapor. Sixth Wave expects this lixiviant to eliminate costly high energy processes including roasting to convert the spodumene to a leachable state. Subsequent purification of the leached lithium will be assessed using Sixth Wave's IXOS® molecular technology to produce high purity lithium carbonate.

"*Lithium continues to be a key driver in the transition from fossil fuel and demand is predicted to grow steadily in the coming years. Moreover, the development of domestic supply of critical resources has become a core focus of the Canadian Government at the Federal and Provincial levels as well as the US Government. While one of the mainstays of hard rock lithium production has been to simply process a float concentrate and ship that out to Asia for subsequent processing, this approach is now being considered a matter of national security pushing the industry to find solutions that will allow processing to battery grade material to be done domestically. Sixth Wave is striving to be on the leading edge of process advancements that can be implemented in a timeframe consistent with high grade deposits transition from exploration to operation*," notes Dr. Jonathan Gluckman, President, and CEO of Sixth Wave.

Mr. John F. Wightman, M.Sc., P.Eng., President, and CEO of Champlain Mineral Ventures Ltd. commented that, "*I have been very happy with the work and results obtained so far by Sixth Wave and the team they have engaged at the Centre Technologique des residus industries (CTRI). The results obtained suggests that a successful and relatively low risk pathway using Sixth*

Wave's technology exists and being able to efficiently and with a lower environmental impact get to battery grade lithium carbonate will be of major benefit to the Brazil Lake project specifically but also to the industry at large."

About Sixth Wave

Sixth Wave is a nanotechnology company with patented technologies that focus on the extraction and detection of target substances at the molecular level using highly specialized molecularly imprinted polymers (MIPs). The Company is in the process of commercializing its IXOS® – AuC polymer for the gold mining industry and is focused on expanding the offerings as noted here in lithium. The Company's patent portfolio covers extensions of the designs for extraction and purification of other critical metals including nickel, cobalt, rare earth elements, and platinum group metals.

Sixth Wave can design, develop and commercialize MIP solutions across a broad spectrum of industries. The company has successfully developed nanotechnology architectures that are highly relevant for the detection and separation of viruses, bacteria, biogenic amines, and other pathogens. The Company is finishing commercialization of its Affinity™ system for purification of cannabinoids. The Company is actively looking for licensing opportunities to monetize these assets as it focuses on the mining and critical metals industry.

For more information about Sixth Wave, please visit: www.sixthwave.com

ON BEHALF OF THE BOARD OF DIRECTORS
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Cautionary Notes

This press release includes certain statements that may be deemed "forward-looking statements" including statements regarding the planned features of the MIPs technology. All statements in this release, other than statements of historical facts, that address future events or developments that the Company expects, are forward-looking statements. Although the Company believes the expectations expressed in such forward-looking statements are based on reasonable assumptions, such statements are not guarantees of future performance, and actual events or developments may differ materially from those in forward-looking statements. Such forward-looking statements necessarily involve known and unknown risks and uncertainties, which may cause the Company's actual performance and financial results in future periods to differ materially from any projections of future performance or results expressed or implied by such forward-looking statements. In particular, successful development and commercialization of the MIPs technology are subject to the risk that the MIPs technology may not prove to be successful in commercial application. The Company has not yet completed the development of a prototype for the product that is subject of this disclosure and is just at the beginning of the patent process for suite of new lithium disclosures. The Company has not begun detailed plant design work to implement the designed flow sheet and has not yet applied for regulatory approval for the use of this product from any regulatory agency. Subject to applicable law, the Company disclaims any obligation to update these forward-looking statements.