St-Georges Eco-Mining Corp. Update on Lithium Extraction Technology Provisional Patent

30.01.2019 | The Newswire

Montreal, January 30, 2019 - St-Georges Eco-Mining Corp. (CSE: SX) (OTC: SXOOF) (FSE: 85G1) would like to provide important information in regards to the provisional patent filing mention in its January 20, 2019 press release and pertaining to its lithium extraction technology initiatives.

In the Company last press release, the text regarding the provisional patent filed under the name 'Method of Mineral Recovery' was incomplete as it omitted important elements of the innovation claim contained in St-Georges provisional filing.

The portion of the text related to lithium extraction technology refers solely to the prior art on which the St-Georges innovation and new patent evolves from. It covers a portion of stage 1, the concentration phase, and is being improved upon.

This prior art comes from United States Patent 4098687, Published 07/04/1978 and titled 'Beneficiation of lithium ores by froth flotation'. This patent is now in the public domain.

(...), the lithium values fraction of lithium-containing ores is floated from gangue slimes, preferably without the use of a desliming step, by a froth flotation process wherein an aqueous pulp of the ore is treated with a conditioning reagent which improves the selectivity of anionic collectors to spodumene and other lithium values. ... The conditioning reagent is added to and thoroughly mixed with the ore pulp before the pulp is subjected to conventional froth flotation in the presence of an anionic collector as the flotation agent (...)" (Extracts of the historical patent)

Although there are important differences in our approach, mainly by initially reducing the amount of material to be froth floated by 55% by adding a prior concentration step using a method of air classification and the fact that we are using this similar approach to treat clays and fines, it is important to point out that the concentration is not our innovation core claim.

The Provisional Patent Innovation Claim

The keys to the invention are using water saturated with silicate salts or other similar substitutes with reagents that make the lithium be attracted to air for successful flotation. Clay materials that are superfine generally do not concentrate well in water. The combination of nitric acid leach with a controlled dosage of citric acid with saturated salt solution for froth flotation has not been done together previously.

St-Georges has been working on low-grade ores in super fines form. These resources are often as difficult to leach as traditional hard rock resources. In the development, the R&D is being carried on two fronts: concentrating with improvements on prior art and leaching with our research team to avoid high-temperature and high-pressure vessels and eliminating the need to roast or calcine the material in order to reduce costs.

The provisional patent filed cover prior art to concentrate low-grade lithium resources with St-Georges technology to leach without pressure or high-temperature and avoid leaching materials that traditionally leach easily with H2SO4 and HCl that enter the circuit as impurities. This selective leaching process allows the reduction of waste materials and neutralization efforts.

Our team has been testing our selective leaching on a number of traditional hard rock crystalline forms of lithium and has successfully leached spodumene and leopodolite without the use of high-temperature and pressure and not requiring roasting and calcining.

The company already reported results of successful selective leaching that has helped to reduce the total weight leached to approximately 12% of the total initial weight. In the second stage of the process, prior art to concentrate lithium in slims and clays is being applied with the selective leaching. St-Georges expects to combine prior art with the innovation in leaching currently being further improved to unlock the lithium content of various conventional and alternative lithium-bearing material.

More material from various origins will be tested in the coming months. So far the selective leach is working on all lithium resources tested.

Timely release of information

St-Georges management has the difficult task to protect the knowledge acquired by its on-going R&D initiatives prior to the grant of formal patents while it also has the obligation to inform its shareholders on the progress of these initiatives while protecting their collective investment in the intellectual property to be generated.

The nature of provisional patent filing allows for amendments as further testing and fine tuning is done and generates positive results while keeping the information protected from third parties. St-Georges' metallurgists are planning to further amend the provisional filings when significant improvement on the core innovation becomes material. The challenge to maintain the right balance between a maximum disclosure of information and the protection of the intellectual property generated is bound to create a situation where an internal censorship process get in the way of efficient information.

ON BEHALF OF THE BOARD OF DIRECTORS

"Enrico Di Cesare"
ENRICO DI CESARE, DIRECTOR & VP RESEARCH & DEVELOPMENT

The Canadian Securities Exchange (CSE) has not reviewed and does not accept responsibility for the adequacy or the accuracy of the contents of this release.