

MGX Minerals Announces Successful Development of Etching Process for Next-Generation Lithium Ion Batteries

VANCOUVER, BC / ACCESSWIRE / September 11, 2019 / MGX Minerals Inc. (“MGX” or the “Company”) ([CSE:XMG](#)) ([FKT:1MG](#)) ([OTCQB:MGXMF](#)) is pleased to report that its collaborative research partnership with the University of British Columbia (“UBC”) has successfully completed development of the etching process to fabricate nanostructured silicon anode. The produced nanostructured silicon has exhibited reversible capacity of ~2,100 mAh/g in half cell testing.

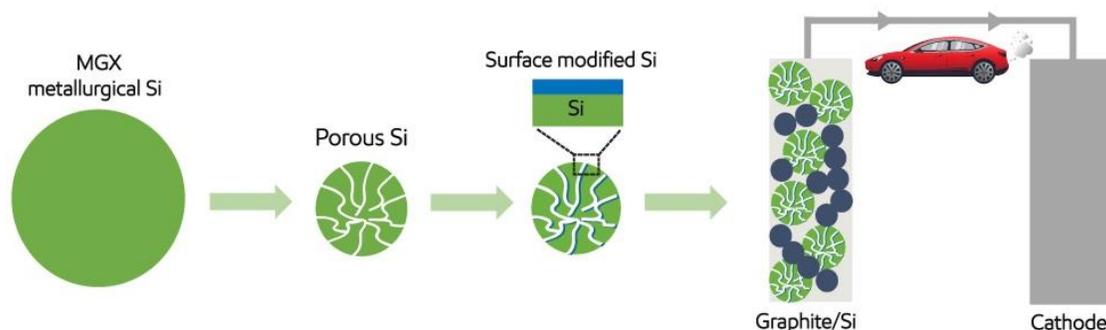
The MGX/UBC partnership is working to develop a novel hybrid organic-inorganic material for use in engineering silicon interfaces. These interfaces will prove critical in achieving a highly efficient, long-lasting silicon anode that will aid in the development of next generation lithium-ion batteries capable of quadrupling energy density from the current standard of ~ 200 Wh/kg up to 400 Wh/kg for use in long-range electric vehicles and grid-scale energy storage.

In addition to developing silicon interfaces, MGX and UBC are also currently conducting process optimization on metallurgical grade silicon. The goal is to utilize low-cost metallurgical-grade silicon as a feedstock to fabricate nanostructured silicon.

About the Research Initiative

The overall objective of the two-year research program is to develop a low-cost and scalable method that will fabricate a silicon-based anode to improve the energy density of Li-ion batteries. Dr. Jian Liu, Assistant Professor in the School of Engineering at UBC Okanagan, is leading a research group focused on advanced materials for energy storage. Dr. Liu was previously the technical lead for development of surface coating materials by atomic and molecular layer deposition, and their applications in surface and interface engineering on the anode and cathode of Li-ion batteries and beyond, at Western University and Pacific Northwest National Laboratory.

Figure 1. Fabrication and evaluation of Si-based anode for Li-ion batteries



MGX Silicon Projects

MGX operates [three silicon projects in southeastern British Columbia](#)- Koot, Wonah and Gibraltar. A one-ton sample of quartzite from the Company's Gibraltar project was previously shipped to the independent lab Dorfner Anzaplan ("Dorfner") in Germany for mineralogical analyses. Dorfner conducted X-ray diffraction analysis, chemical analyses through X-ray fluorescence spectroscopy, grain size distribution, mineral processing analysis, automated optical sorting and thermal stability testing. Results indicated that the material, after comminution and classification fraction, is of high initial purity (99.5 wt.-%), making the fraction chemically suitable as medium quality feedstock material for metallurgical-grade silicon production.

About MGX Minerals Inc.

MGX Minerals is a diversified Canadian resource and technology company with interests in global advanced material, energy and water assets.

Contact Information

Jared Lazerson
President and CEO
Telephone: 1.604.681.7735
Web: www.mgxminerals.com

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