



## **MGX Minerals Announces Development of Novel Surface Coating for Si Anode in Next-Generation Lithium Ion Batteries**

**VANCOUVER, BRITISH COLUMBIA** / February 2, 2020 / **MGX Minerals Inc.** (“MGX” or the “Company”) ([CSE: XMG](#) / [FKT: 1MG](#) / [OTCPK: MGXMF](#)) is pleased to report that its collaborative research partnership with the University of British Columbia (“UBC”) has developed a new multifunctional surface coating, aluminum oxynitride, by an advanced atomic layer deposition technique. With this thin surface coating, the Si anode exhibited dramatically improved specific capacity of 1,200 mAh g<sup>-1</sup> for 100 cycles at 0.1C, in comparison to 500 mAh g<sup>-1</sup> for bare Si anode. This research represents an advancement in the design of artificial solid electrolyte interphase for Si anode. The team is further integrating this novel coating in their existing graphite/silicon anode to make it commercially viable.

The MGX/UBC partnership is targeting to develop highly efficient, long-lasting silicon anode that will aid in the development of next generation lithium-ion batteries capable of increasing 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. The project will utilize low-cost MGX metallurgical-grade silicon as a feedstock to fabricate nanostructured silicon. The Company plans to build a laboratory in the Province of British Columbia and is actively seeking licensing and electric vehicle manufacturing partners.

### **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.

### **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.

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**Forward-Looking Statements**

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