VanadiumCorp Resource Inc. and Electrochem Technologies & Materials Inc. Sign Partnership Agreement

written by Raj Shah | January 17, 2018

January 16, 2018 (Source) – VanadiumCorp Resource Inc. (TSX-V "VRB") (the "Company") is pleased to announce it has signed a partnership agreement further to the memorandum of understanding with Electrochem Technologies & Materials Inc. ("Electrochem") signed and announced February 9th, 2017. The partnership expands on successful collaboration that began in 2016 with the objective of commercial demonstration. The new chemical process represents a green and efficient alternative to current polluting and inefficient methods of processing utilized in the vanadium, steel, iron and energy storage industries.

Adriaan Bakker, CEO of VanadiumCorp states, "The advantage of monetizing all three metals from VTM provides a distinct advantage for our 100% owned VTM resources in Quebec and joint licensing opportunity of the technologies worldwide. Our collaboration with Electrochem first began by addressing the industry need for a better process method for vanadium electrolyte. Utilizing a custom reactor and combining technologies, Phase II testing and trial production subsequently confirmed the ability to process magnetite regardless of origin and various feedstocks that many companies had considered waste until now."

Terms of the Partnership Agreement Include:

- 50/50 agreement on development and licensing of VanadiumCorp-Electrochem Chemical Process Technology
- Development partnership targeting North American demonstration, commercialization and scaled production plans relating to secured feedstock supply
- Development partnership targeting pilot plant demonstration, commercialization and scaled production applied to VanadiumCorp's 100% owned VTM Resources
- Buyout provision

Over 85% of vanadium is produced from the same type of magnetite utilized in the global steel and iron industries. Current primary production of vanadium leaves behind an average of 99% of VTM already concentrated at the mine as residual calcine waste. The patent pending chemical process technology allows the dissolution of 95%+ VTM directly into sulfuric acid with the separation of iron values as ferrous sulfate heptahydrate (copperas) along with titania and silica as by-products. Then the utilization Electrochem's patented electrowinning process (Can. Pat. 2,717,887 C) allows the low carbon footprint production of pure electrolytic iron from the copperas recovered while vanadium remains in the pregnant solution as vanadyl sulfate that can be separated and purified into electrolyte for energy storage.

The control and predominant usage of vanadium by the steel market creates price volatility for vanadium oxide that remains the vanadium battery industry's largest challenge since 1985. Furthermore, the higher cost structure for electrolyte is attributed to the limited supply and impurities associated with conventional production of the oxides. VanadiumCorp-Electrochem chemical process addresses these market challenges with following advantages:

1. Direct recovery into standard vanadyl sulfate solution that can be processed to meet any Vanadium Battery specification
2. Most deleterious impurities are easily removed as the feedstocks are dissolved in solution
3. Monetization of additional iron, titanium and silica values from vanadium bearing feedstocks

Collaboration from the signed MOU includes:

- Successful demonstration of production of vanadium-rich pregnant solution (VE precursor), other specialty vanadium materials, electrolytic iron, titania and silica byproducts
- Completed development and integration of efficient and environmentally friendly chemical and electrochemical processing technologies including the simultaneous removal of contaminant metals and the concurrent regeneration of chemicals.
- U.S. provisional patents applications filed (U.S. 62/463,411 and U.S. 62/582,060)
- Construction of custom built reactor pilot with 300 kg/month nameplate capacity
- Semi pilot circuit complete for utilizing the two integrated technologies in Phase II trial production
- Preliminary carbon footprint comparison/advantages of the integrated technologies
- Schematic of new process disclosed publicly
- Successful prototype testing of 100% owned VanadiumCorp VTM
- Successful prototype testing of VTM from global Companies
- Successful prototype testing of calcine, slags and residues from global Companies
- General process & production development outline for The Lac Dore Vanadium Project disclosed in the Company’s

preliminary economic study dated December 28th, 2017.

VanadiumCorp Resource Inc. is developing and exploring licensing potential for an innovative, carbon-free process technology that unlocks a new strategic supply of vanadium and coproducts such as titanium. Jointly developed and owned with Electrochem, this innovative chemical process allows for integrated and carbon-free recovery of critical metals needed on a global scale. VanadiumCorp also holds a significant vanadium-titanium-iron bearing resource base in mining friendly Quebec, Canada.

Electrochem Technologies & Materials Inc. is a private Canadian corporation that invents, develops, patents, scales-up and commercializes proprietary chemical, metallurgical and electrochemical technologies that are innovative, and sustainable. Electrochem owns the exclusive rights for its patented iron electrowinning process worldwide. The company also manufactures electrolyzers, industrial electrodes and produces tantalum and tungsten fine chemicals.

On behalf of the board:
Adriaan Bakker,
President and Chief Executive Officer

Neither the TSX Venture Exchange nor its Regulation Services Provider (as that term is defined in the policies of the TSX Venture Exchange) accepts responsibility for the adequacy or accuracy of this release.