Recovery of Vanadium Electrolyte, Vanadium Oxides and Phase II Expansion

TSX-V: VRB

VANCOUVER, July 25, 2017 /CNW/ - VanadiumCorp Resource Inc. (TSX-V: “VRB”) (the “Company”) is pleased to announce direct and consistent recovery of vanadium electrolyte “VE”, vanadium oxides, titanium and the expansion of VanadiumCorp-Electrochem Technology. Phase II trial production is currently accepting delivery of global feedstocks from international vanadium and steel companies interested in the significant potential of VanadiumCorp-Electrochem Technology. The planned expansion with additional feedstocks will facilitate scaling VanadiumCorp-Electrochem Technology to reach one metric tonne/month nameplate capacity and include larger infrastructure such as reactors to process larger batches of VTM necessary to fully test production of vanadium oxides, vanadium electrolyte and electrolytic iron for final qualification by potential end users.

Near Term Timeline

- Testing and qualification of VanadiumCorp Electrolyte™ with global energy storage partners and government research organizations
- Expand Phase II infrastructure, production scale and scope to test capacity and potential of VanadiumCorp-Electrochem Technology on global feedstocks processed for international steel making and specialty metal companies:
- Preliminary Economic Assessment for flagship Lac Dore VTM Project as feedstock for VanadiumCorp-Electrochem Technology

Global Capacity Testing- Feedstock Status and Expanded Scope

- Vanidiferous Titanomagnetite "VTM" – Excellent recoveries of vanadium, iron, titanium products
- Iron making – Potential to implement a fully integrated CO₂-free iron making process to replace blast furnaces in the iron and steel making industries in global jurisdictions of affordable electricity
- Calcine monetization for existing primary vanadium producers
- Mining waste to industrial metals and chemicals for multicommodity producers

Phase II development of Vanadiumcorp-Electrochem Process Technology is located at Electrochem Technologies & Materials Inc. (“Electrochem”) facilities in Boucherville, Quebec. The spectrum of recoverable products has also expanded in Phase II to include the following:

- Electrolytic Iron
- Ferric oxide recovery option for global jurisdictions where high electricity cost prohibits the utilization of electrowinning
- VanadiumCorp Electrolyte™
- Vanadium oxides and chemicals
- Titanium dioxide by-product
- Silica by-product

Adriaan Bakker, CEO of VanadiumCorp states, “We are demonstrating maximum recovery with a green process of all three commodities from multiple feedstocks at the increased scale of Phase II. Results remain consistent with phase I and efficiencies are reproducible. Our technology has also demonstrated a remarkably high tolerance for impurities in feedstock that would otherwise not be tolerated with conventional approaches. The potential for mass adoption remains significant across many industries.”
Based on the continued success within Phase II, VanadiumCorp and Electrochem are both confident about the disruptive integrated approach having a profound impact for processing vanadium and iron feedstocks in Canada and abroad with an exclusive, environmentally friendly technology developed in Quebec, Canada.

Electrochem Technologies & Materials Inc. is a research and development company that invents, develops, patents, scales-up and commercialize proprietary metallurgical and electrochemical technologies that are innovative, and sustainable. VanadiumCorp-Electrochem Technology is located at Electrochem's facilities in Boucherville, Quebec.

Conventional pyrometallurgical processes used for vanadium, titanium and steel production utilize either direct soda ash roasting of the magnetite followed by water leaching, or the arc smelting and slagging of the magnetite followed by soda ash roasting of the vanadium-rich slag. Smelting or roasting is capital intensive with high operating costs, technical risks and significant emissions of greenhouse gases that pose serious environmental issues. Hydrometallurgical processes for the extraction of vanadium have been proposed in the last decade as a lower cost alternative in replacement of the conventional processes, however, they do not recover electrolytic iron and rely on expensive chemicals. The Vanadiumcorp-Electrochem Technology addresses these key issues and allows the full recovery of vanadium for the production of either a vanadium electrolyte (VE) or vanadium chemicals used for preparing vanadium battery electrolyte as well as the concurrent production of a high quality and competitive iron co-product.

VanadiumCorp holds a significant NI 43-101 vanadium resource base in mining friendly Quebec Canada and is scaling development of breakthrough process technology co-developed with Electrochem for integrated and sustainable recovery of critical metals required globally.

Vanadiumcorp Electrolyte™ is a registered trademark of VanadiumCorp representing high purity vanadium electrolyte targeting cost reduction to facilitate mass deployment of VRFB energy storage technology. Vanadiumcorp Electrolyte™ does not degrade, is 100% reusable and represents the main component of vanadium batteries to increase battery lifetime beyond 25 years.

Adriaan Bakker,
President and Chief Executive Officer

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