

New Technology for Recovering Iron and Vanadium from Vanadiferous Titanomagnetite

TSX-V: "VRB"

VANCOUVER, Feb. 28, 2017 /CNW/ - **VANADIUMCORP RESOURCE INC.** February 28, 2017, VanadiumCorp Resource Inc. (TSX-V: "VRB") is pleased to announce that it has applied jointly with Electrochem Technologies & Materials Inc. "Electrochem" for a **US provisional patent application (US 62/463,411)** for a combined metallurgical and chemical process. Successful test work commenced by Dr. Francois Cardarelli at Electrochem's facilities in Boucherville, Quebec yielded high recoveries of both iron and vanadium values from a vanadiferous titanomagnetite concentrate that was extracted, prepared and beneficiated by IOS Services Geoscientifiques Inc., directly from the Company's 100% owned Lac Dore Vanadium Project in Chibougamau, Quebec.



Conventional pyrometallurgical processes 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 but they fail to produce a high quality iron co-product.

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.

Adriaan Bakker, CEO of Vanadiumcorp states, "Direct co-recovery of high quality and competitive iron product adds significant value to our resources and production potential. Our entire "Mine to technology" transformation plan is now environmentally friendly in addition to our battery electrolyte lasting forever in 100% green energy storage technology. Vanadiumcorp is committed to the development of a low cost vanadium electrolyte alternative to facilitate mass deployment of vanadium redox flow batteries."

Highlights

- **Joint US provisional patent application** filed to protect a novel technology developed jointly by VanadiumCorp Resource Inc. and Electrochem Technologies & Materials Inc.
- **Clean alternative to roasting and smelting**, with negligible greenhouse gases emissions and minimizing the amount of wastes
- **Maximum recovery and transformation:** Combination of metallurgical and chemical processes suitable for recovering iron and vanadium for preparing a vanadium electrolyte (VE) directly from vanadiferous titanomagnetites.
- **Successful trials** conducted with a vanadiferous titanomagnetite concentrate from the Vanadiumcorp Lac Dore Vanadium Project.
- **Demonstration of potential industrial applicability** of Vanadiumcorp-Electrochem Technology from successful test work initiated in 2016 and that continues during 2017 with other vanadium sources.
- **Direct, high efficiency VE and Iron process technology**
- **Advantage of coproduct recovery** over conventional iron and vanadium production methods
- **Scalable production with modular design**

- **Low cost production target** for 100% reusable battery material
- **Location agnostic:** Creates opportunity for process technology centers next to primary vanadium resources and secondary vanadium feedstocks such as spent catalysts, slags and fly ash
- **100% green vertically integrated supply stream "mine to technology"**

Complete vertically integrated climate change solution

- **Primary Supply:** Exclusive NI 43-101 low impurity vanadium resource in magnetite (66% Iron & 1.08% V₂O₅ in concentrate)
- **Secondary Supply:** VE Recovery potential from vanadium feedstocks such as oil sands fly ash waste
- **Exclusive Process technology** - Vanadiumcorp-Electrochem Technology
- **Cost reduction potential for vanadium batteries** Vanadiumcorp Electrolyte
- **End users:** Partnerships secured with leading US, Canadian and Global Vanadium Battery Companies for commercial deployment

Production testing of vanadium electrolyte and iron co-product will continue into Q2 2017. The VE produced will be tested in vanadium battery deployment projects VanadiumCorp is considering as well as collaborative R&D projects.

Request samples and preorders are available on the Company's website at www.vanadiumcorp.com

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