Venus Metals Corporation Limited: Youanmi Project Metallurgical Testwork Delivers High Grade Vanadium Concentrates

09.08.2018 | ABN Newswire

Perth, Australia - The Directors of Venus Metals Corporation Ltd. (ASX:VMC) ("Venus" or the "Company") are pleased to announce the results of preliminary metallurgical testwork on eleven historical diamond drill core samples from the Youanmi Vanadium Project, Western Australia. This testwork was carried out on two composites; oxide and fresh to assess the response of these materials to conventional magnetic concentration methods used for similar vanadium deposits in Western Australia.

HIGHLIGHTS:

- Vanadium-enriched magnetic concentrate grades averaging 1.40% V2O5 have been obtained from fresh rock drill core assaying 0.71% V2O5. Concentrate grades up to 1.46% V2O5 were obtained.

- Vanadium-enriched magnetic concentrate grades averaging 1.32% V2O5 have been obtained from oxidised material assaying 0.67% V2O5. Concentrate grades were reported up to 1.37% V2O5.

- Importantly, the test work has shown an excellent rejection of deleterious elements and compounds for downstream processing

o Up to 98.6% rejection for silica

o Up to 99.0% rejection for calcium

o Up to 93.8% rejection for alumina

These results show that the V2O5 grade can be doubled for both the fresh rock and oxide Youanmi samples by producing a magnetic concentrate whilst rejecting significant amounts of gangue constituents present in the material.

The testwork also shows there is a relative ease to crushing the drill core material prior to magnetic separation as outlined by low to moderate comminution work indices.

Venus Metals Managing Director Matthew Hogan comments: "These excellent results give the Company great confidence to advance our Vanadium Project. Being able to produce a high-grade Vanadium concentrate of 1.40% V2O5 by a simple process is significant. The Company is advancing discussions in relation to new process technologies for our concentrate which involve potentially fully integrated battery development opportunities".

Youanmi Vanadium Project Overview:

Venus's Youanmi Vanadium deposit is located on tenement E57/986 (198.5 km2) which is about 42km southeast of the world class vanadium mine at Windimurra, owned by Atlantic, a subsidiary of Droxford International Limited (see Figure 1 in link below). Youanmi Vanadium has good access to major infrastructure such as gas pipeline, roads and port facilities. Venus holds a 90% interest and the prospector holds a 10% interest in this tenement.

JORC 2012 Vanadium Resource:

Widenbar and Associates ("WAA") has reviewed the historical drilling, sampling and assaying data and produced a high-grade Inferred Resource of 167.7 Million tonnes @ 0.41% V2O5, 7.52% TiO2 and 24.6% Fe (0.25% V2O5 cut-off) for a Vanadium Pentoxide resource of 683,000 tonnes (ASX release dated 6 Feb 2015).

The diamond drill core samples used for the metallurgical test work are located within this high-grade inferred resource (see Figure 2 in link below).

Metallurgical Testwork

The Company commissioned METS Engineering Group ("METS") to develop a series of metallurgical tests suitable for the diamond core composite samples to assess the response of this ore to the conventional magnetic concentration methods used for similar vanadium deposits (refer ASX release 27 March 2018). The aim of this testwork was to:

a) assess the ore's physical properties to determine the ease of crushing and grinding and;

b) assess the upgrade of vanadium into a magnetic concentrate and to assess the quality of this magnetic concentrate produced

The testwork showed low to moderate comminution work indices, indicating favourable impacts on the comminution circuit and that magnetic separation was able to produce a Vanadium-enriched magnetic concentrate whilst rejecting significant amounts of gangue constituents that were present in the ore.

This testwork was carried out on two composites; oxide and fresh. These composites were made up from historical half core sections, selected to include a spread through the orebody and to target the average grade of high-grade domains present within the orebody. The testwork was carried out at the Iron Ore Technical Centre, part of ALS Metallurgy, Wangarra, Western Australia and was broken down into two areas:

a) Comminution and Physical Testing; and

b) Beneficiation

The comminution and physical testing consisted of in-situ density measurements, Bond Crushing Work index ("CWi"), Bond Abrasion Index testing ("Ai"), SAG Mill Comminution testing ("SMC") and Bond Ball Mill Work Index ("BBWi"). Overall the results from the physical testing are positive. Low CWi's of 8.6 kWh/t for the fresh composite and 3.8 kWh/t for the oxide composite indicating low power requirements for the crushing circuit. Abrasion Index values of 0.0876 for the fresh composite and 0.0223 for the oxide composite indicate low wear on equipment and low media consumption in the grinding circuit. The SMC results can be seen in Table 1(see link below).

The Drop Weight Index ("DWi") is a measure of the resistance of the sample to impact breakage. The Youanmi samples reported DWi's of 6.3 kWh/m3 for fresh and 1.4 kWh/m3 for the oxide. These values are in the 45th and 3rd percentiles respectively when compared to all historical SMC DWi results (40,000 global results). The BBWi testing is currently underway as it required initial beneficiation results to allow for a closing screen to be chosen so that the data is more relevant.

The beneficiation testwork consists of Davis Tube Recovery ("DTR") testing to evaluate both sensitivity to grind size and magnetic field intensity during separation, wet Low Intensity Magnetic Separation ("LIMS") to confirm these conditions and higher intensity magnetic separation methods to investigate methods to improve vanadium recovery, particularly for the oxide composite. The grind sensitivity testing has indicated that the material is moderately sensitive to grind size when considering vanadium grade and recovery and the grade of gangue contaminants into the magnetic concentrate, which can be seen in Table 2(see link below). Importantly this testing has shown that a relatively coarse grind size of nominal P80 106 micronsm is capable of reducing combined silica and alumina to 3.59%. This testing has also shown that a coarse grind size of P80 150 micronsm is capable of achieving combined silica and alumina levels below 5%.

The magnetic field intensity testing has indicated that it is not particularly sensitive to the range tested; 2000 gauss, 3000 gauss and 4000 gauss, approximately corresponding to 600 gauss, 900 gauss and 1200 gauss on a wet LIMS which can be seen in Table 3(see link below).

The testing for the oxide composite can be found in Table 4 and Table 5(see link below). As expected the oxide composite shows a greater sensitivity to both grind size and magnetic field intensity during separation.

Further Metallurgical work

Metallurgical testing is on-going in order to assess methods of recovering additional vanadium from both composites (fresh and oxide) and to assess options for the extraction of valuable by-product minerals from the magnetic concentrates produced.

To view tables and figures, please visit:
http://abnnewswire.net/lnk/2MWRV9T6

About Venus Metals Corporation Limited:

Venus Metals Corporation Ltd. (ASX:VMC) holds a significant and wide ranging portfolio of Australian base and precious metals exploration projects comprising lithium, cobalt, vanadium, copper, zinc, nickel, gold and platinum group of elements.

Key project areas in Western Australia include:

- Pincher Well Zinc-Copper Project (Youanmi): Over 5 km of under explored VMS trend with an Exploration Target of 15-20 Million Tonnes@ 2-8% Zinc,which also hosts a number of high grade lodes (>10% Zinc).

- Currans Well Cobalt-Nickel-Copper Project (Youanmi): Significant Cobalt mineralisation up to 1483 ppm Co in historical drilling. Extensive Lateritic Duricrust Co-Ni target areas identified.

- Curara Well Nickel-Copper-Gold Project (Doolgunna):10 km northeast of Sandfire Resources DeGrussa Copper Mine. Wide intercepts of disseminated Nickel Sulphides (Millerites) in Ultramafics.

- Southern Cross Vanadium Project (Youanmi): JORC 2012 Inferred Vanadium Mineral Resource of 167.7 Millions Tonnes @ 0.41% V_2O_5, 7.52% TiO_2.

- Strategic Lithium-Tantalum Projects in WA.

Source:

Venus Metals Corporation Ltd.

Contact:

Matthew Hogan Managing Director T: +61-8-9321-7541 Kumar Arunachalam Executive Director T: +61-8-9321-7541 E: info@venusmetals.com.au