KING RIVER COPPER LIMITED

VANADIUM METALLURGY UPDATE

Australian Securities Exchange Announcement **9 October 2017**

Highlights

- Positive results obtained in leaching up to 97.7% Vanadium into solution from V-Ti magnetite concentrate.
- A titanium dioxide product assaying **94.5% TiO2** was obtained from initial precipitation tests.
- The next step is aiming to produce high purity vanadium pentoxide and titanium dioxide products.

King River Copper Limited (ASX: KRC) is pleased to provide this update on hydrometallurgical testwork completed by TSW Analytical Pty Ltd ("TSW Analytical"), a team of chemists and analysts with experience in the development and assay of high purity products.

As previously reported, KRC is undertaking a Vanadium Concept Study into the production of high purity (99.5-99.9%) Vanadium Pentoxide (V_2O_5) and Titanium Dioxide (TiO_2) products from the Central vanadium deposit at Speewah (KRC ASX: 21 April 2017). The major objective of the Concept Study will be to identify a base framework for a new Scoping Study into the production and marketability of vanadium electrolyte products used in vanadium flow batteries (VFB).

Metallurgical Testwork by TSW Analytical

TSW Analytical has been asked to investigate a method of producing Vanadium Electrolyte for use in VRB and also Titanium products from the Speewah vanadiferous titaniferous magnetite concentrate. TSW Analytical has commenced acid leach and hydrothermal and chemical precipitation testwork to initially produce Vanadium Pentoxide and Titanium Dioxide products.

Acid Leach Testwork

TSW Analytical received a 500g sample of the vanadiferous titano-magnetite concentrate previously produced by Nagrom the Mineral Processor that assayed 2.15% V_2O_5, 12.72% TiO_2 and 71.42% Fe_2O_3 (refer KRC ASX announcement 21 August 2017).

TSW Analytical completed 27 diagnostic microleach tests on 5g samples of the vanadium concentrate using hydrochloric acid (HCl) as the leaching agent at three different acid strengths (4, 6 and 10 mol/L), three leach temperatures (40, 70 and 90°C), three pulp densities (5, 10 and 20%wt./wt.), with a set leach time of 3 hours and stirred continuously. Vanadium (V), Titanium (Ti) and Iron (Fe) extraction recoveries were recorded. The following represents a summary of the observations and outcomes of these tests:

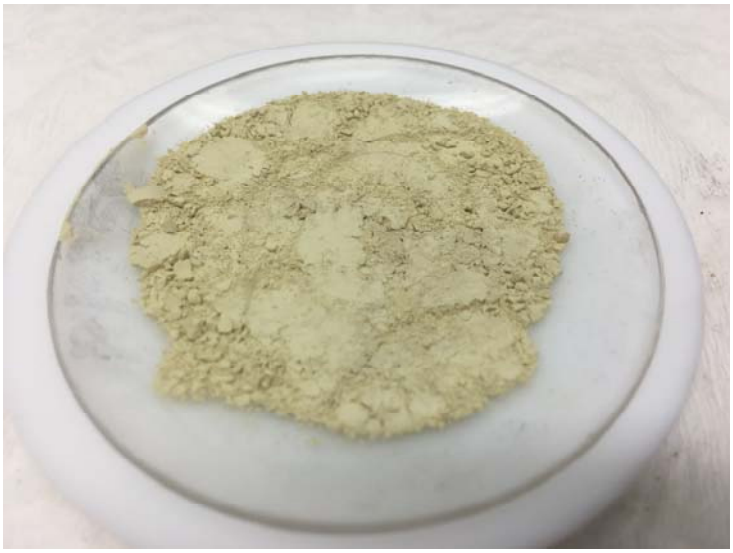
- Vanadium and Titanium are effectively leached between 6 and 10 mol/L of HCl.
- At 70 and 90 ^{O}C Vanadium and Titanium are almost completely taken into solution within 3 hours.
- The leach efficiency of Vanadium and Titanium degrade as the pulp density is increased above 10 %wt./wt.
- At 4 mol/L HCl, pulp density less than or equal to 10 %wt./wt and elevated temperature (70–90^{O}C) Vanadium is effectively leached (>95 %) and Titanium remains with the residue.

A 22g concentrate sample was leached under near optimal conditions (8M HCl acid strength, 10% pulp density and 80°C for 3 hours) sampling at short time intervals to understand the leaching kinetics. The results included:

- The leach efficiency for Titanium, Vanadium and Iron were 75.7%, 97.7% and 92.2% respectively.
- A high percentage of vanadium and iron was taken into solution during the first minute of the leach process. This rapid dissolution is attributed to the small particle size (80% <45 microns) of the concentrate.
- Leaching for longer than 2 hours only increased the leach efficiency of Titanium slightly.

Hydrothermal Precipitation of Titanium Dioxide

The initial focus of product generation testwork has been to precipitate a Titanium Oxide (TiO_2) product without the addition of any reagents. The leach liquor was heated under reflux and distillation conditions to promote the hydrolysis of Titanium. Sighter precipitation tests confirmed that over 80% of the available Ti precipitated with nearly all the V and most of the Fe remaining in solution. A larger leach sample was heated using the distillation process only and produced a Titanium Dioxide precipitate that assayed 94.1% TiO_2. The purity of the produced product was improved slightly by a single acid wash step that removed some Fe contaminants and generated a Titanium Dioxide product that assayed 94.5% TiO_2 (see below).



Washed Titanium Dioxide Precipitate assaying 94.5% TiO_2

Further hydrothermal Titanium Dioxide precipitation testwork is now underway, combining both reflux and distillation methods to improve the Ti recovery to >95%. Additional purification steps will be completed to further remove contaminants to generate a high purity Titanium Dioxide product.

Chemical Precipitation of Vanadium Pentoxide

Vanadium product generation testwork is underway trialling several selective chemical precipitation methods. If this approach is unsuccessful in producing a Vanadium product suitable for further test-work then a solvent extraction (SX) approach will be investigated. An update of these results will be reported by the end of October.

About TSW Analytical

TSW Analytical was established in 2006 to offer research-based scientific services. These scientific services are focused on solving problems which cannot be addressed by the suppliers of routine laboratory analytical service. Since inception, the company has grown to become one of the leading suppliers of forensic and analytical chemistry in Australia and abroad. The highly diverse expertise of the TSW Analytical team has enabled the business to provide services to almost any client; from those involved in mining and exploration, to food regulators, producers and distributors, law enforcement agencies (domestically and internationally), consultants to the oil and gas industry as well as those pursuing academic endeavours. TSW Analytical is actively involved in cutting-edge scientific research which enables the delivery of a unique scientific service and facilitates an exceptional, highly applied research and training environment (http://www.tswanalytical.com.au/about.html).

Statement by Competent Person

The information in this report that relates to Exploration Results, Mineral Resources and Metallurgy is based on information compiled by Ken Rogers (B.Sc.Hons.) and Dr. John Watling (Ph.D.) and fairly represents this information. Mr. Rogers is the Chief Geologist and an employee of King River Copper Ltd and a Member of both the Australian Institute of Geoscientists (AIG) and The Institute of Materials Minerals and Mining (IMMM). Dr. Watling is the Chief Scientist at TSW Analytical Pty Ltd, and former Professor of Forensic Chemistry at the University of Western Australia, he is a Fellow of both the Royal Australian Chemical Institute (RACI) and the Royal Society of Chemistry (RSC) (London), he is a Chartered Scientist and Chartered Chemist and a Registered Analytical Chemist with the Royal Society of Chemistry, he supervised the hydrometallurgical test work, analytical procedures and chemical studies reported in this announcement. Mr. Rogers has sufficient experience of relevance to the styles of mineralisation and the types of deposits under consideration, and to the activities undertaken, to qualify as a Competent Person as defined in the 2012 Edition of the Joint Ore Reserves Committee (JORC) Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves. Mr. Rogers and Dr. Watling consent to the inclusion in this report of the matters based on information in the form and context in which it appears.

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