
Australian Securities Exchange Announcement**20 June 2018**

Highlights

- ❖ CSA Global completed an initial conceptual mining study using open cut optimisation techniques on the Central vanadium deposit. This pit study has encouraged KRC to scale up the vanadium-titanium-iron project Scoping Study to almost twice the size of the planned operation reported in the 2012 Scoping Study.
- ❖ TSW Analytical is working on two process routes to make high purity vanadium pentoxide:
 - direct hydrous vanadium oxide route produced a high grade vanadium pentoxide (99.48% V₂O₅).
 - ammonium metavanadate (AMV) route is the current focus of testwork to produce high purity vanadium pentoxide and will be used for testwork to manufacture vanadium electrolytes.
- ❖ Primero Group has delivered initial detailed process flow sheets for each stage of the beneficiation plant at Speewah. The beneficiation circuit has been designed to maximise V and Ti recovery into the magnetite-ilmenite concentrate and reject a high proportion of the ROM feed at a 0.5mm grain size using magnetic separation methods. Primero will now complete the operating and capital cost estimations and some further investigations into vanadium processing technologies and commercial options.

King River Copper Limited (ASX: KRC) is pleased to provide this progress update on the company's Vanadium Concept Study for its 100% owned Speewah Vanadium Project in the East Kimberley of Western Australia. The main objective of the Concept Study is to identify and address the technical hurdles necessary to complete a Scoping Study into the production of high purity vanadium pentoxide (99.5-99.9% V₂O₅), titanium dioxide (>99% TiO₂) and iron oxide (>68% Fe₂O₃) products utilising a novel hydrometallurgical process using a concentrate derived from the Speewah Central vanadium deposit. The Company is also investigating the means for the production of the vanadium electrolyte (VE) products that are used in vanadium flow batteries (VFB).

Items still to be addressed in the Concept Study include:

- ❖ Finalising the Hydrometallurgical Process Flow Sheet and capital and processing cost estimates
- ❖ Finalising the Beneficiation Plant design and capital and processing cost estimates
- ❖ Final open pit optimisation and mining schedule study using the operating cost estimates.

Once these items have been addressed, KRC will finalise a Scoping Study into the preliminary economics of the Speewah Vanadium Project suitable for release to the market in accordance with the reporting requirements for production targets and forward looking statements. The modifying factors listed in the JORC 2012 Code will be considered to address the Material Assumptions for the Scoping Study (please refer to Appendix 1).

KRC is very pleased with the recent major developments including:

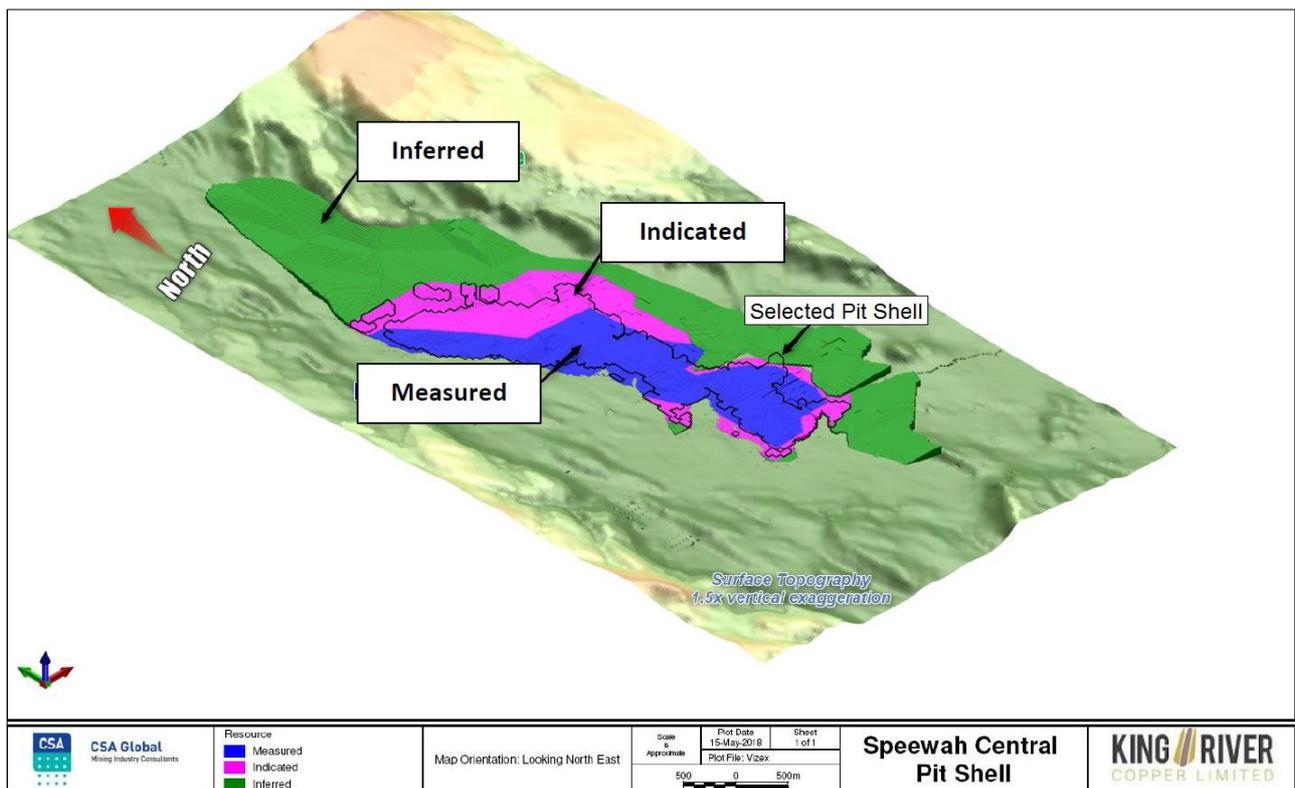
- CSA Global Pty Ltd (CSA Global) completed an initial conceptual mining study using open cut optimisation techniques on the Mineral Resource block model for the Central vanadium deposit. Several plant throughput scenarios were examined using Whittle 4D pit optimisation software. All parameters used in the study have been based on projects of a similar scale and benchmarking from the CSA Global database.

Optimisation runs included both unrestricted low and high grade resource zones and runs restricted to just the high grade zone.

Only Measured and Indicated Resources and no Inferred material were used in the analysis.

This initial pit study has allowed KRC to make the following conclusions about the Resource:

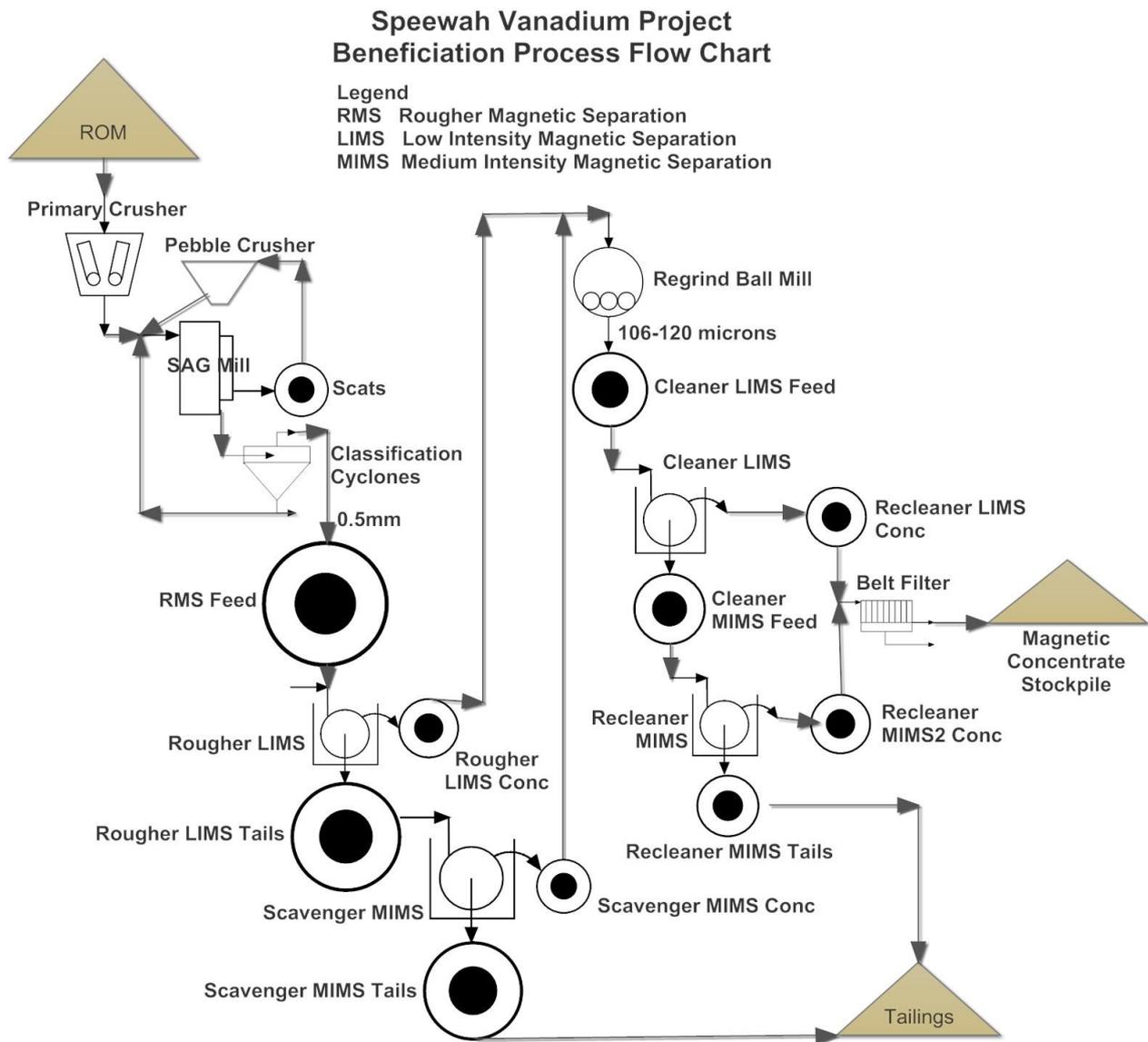
- There are sufficient Measured and Indicated Resources to support the largest of the different options considered.
- The best optimisation case was based on a pit shell with sufficient material for several decades of production, at what the company considers to be economically viable mining grades in today's terms, with a low strip ratio of 0.4. The selected optimisation shell is extensive with a length of 4,200m by 1,200m wide and is 90m in depth (see 3D diagram below).
- The favourable deposit orientation means that mining costs will be a minor part of total operating costs.
- Grades for V₂O₅, TiO₂ and Fe are very consistent by depth and extent throughout the deposit.
- The deposit will enable a consistent supply of plant feed with a smooth mining movement due to the homogenous nature of the deposit.



This initial pit study has encouraged KRC to scale up the vanadium-titanium-iron project Scoping Study to almost twice the size of the planned operation reported in the 2012 Scoping Study.

A final pit study will be undertaken on completion of the beneficiation and hydrometallurgical process designs, using the relevant mining and beneficiation cost estimates. The anticipated mining dilution, mining recovery factors, hydrometallurgical recoveries, processing costs, and metal prices will be used in an updated Scoping Study. This study will help focus plant size decisions, and delineate an updated Resource Estimate, potential production profile and project development plan.

- Primero Group Ltd (“Primero”), an engineering consultant group, has delivered initial detailed process flow sheets for each stage of the beneficiation circuit, and will provide operating and capital cost estimates for a beneficiation plant at Speewah. The beneficiation circuit has been designed to maximise V and Ti recovery into the magnetite-ilmenite concentrate and reject a high proportion of the ROM feed at a 0.5mm grain size using magnetic separation methods. A simplified process flow chart summarising the beneficiation process is shown below.

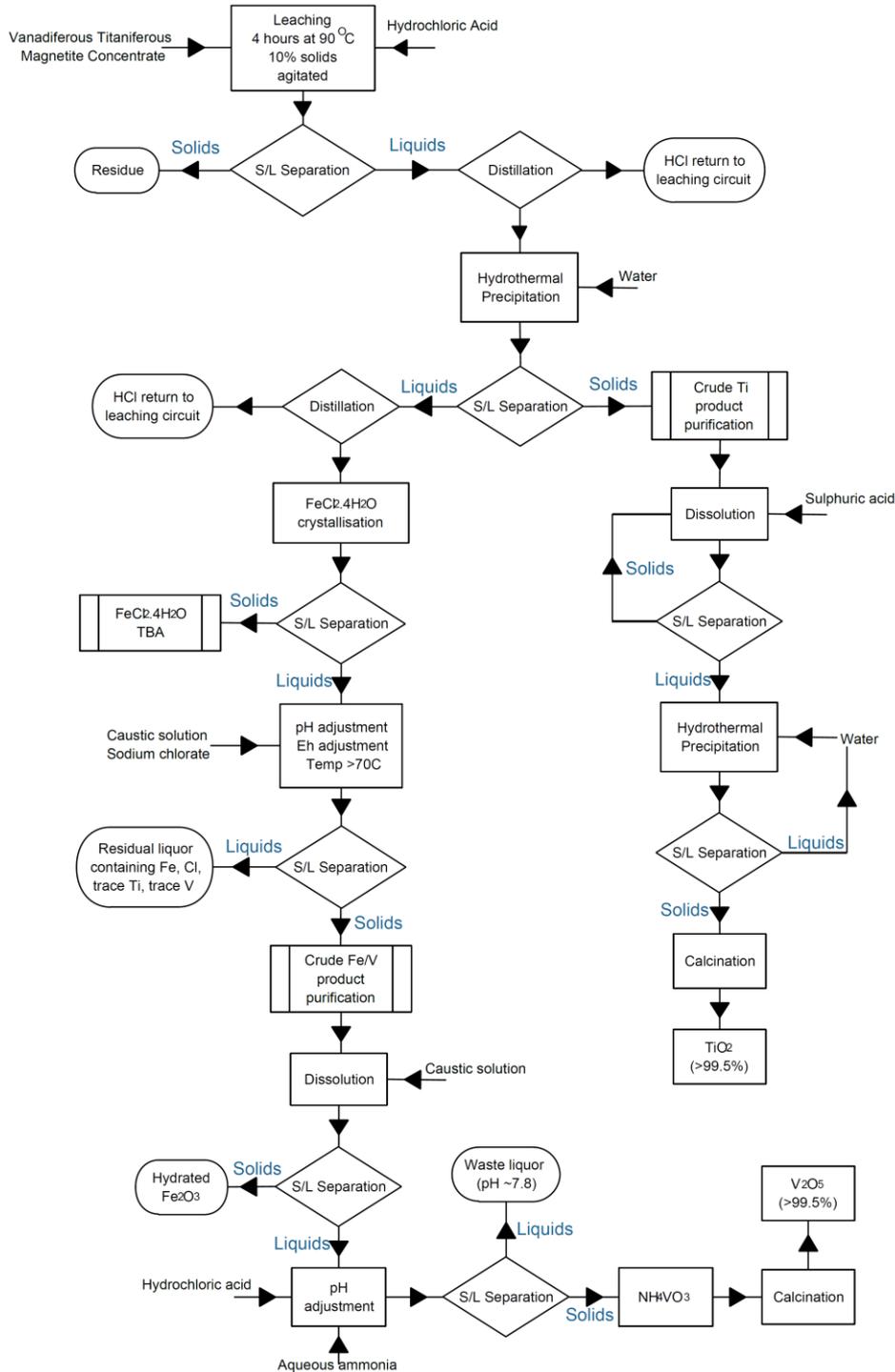


Primero has also provided a comparative study of hydrometallurgical vanadium processing technologies. This study supports KRC’s selection of a direct HCl acid leaching-precipitation hydrometallurgical process route. It has also identified some new opportunities for investigation currently underway involving a novel method to concentrate the target metals from the leachate and improve acid recovery.

Primero will now complete the operating and capital cost estimations and some further investigations into vanadium processing technologies and commercial options.

- ❖ TSW Analytical Pty Ltd (TSW Analytical) is working on two process routes to make high purity vanadium pentoxide:
 - direct hydrous vanadium oxide route produced a high grade vanadium pentoxide (99.48% V_2O_5) (KRC ASX 27 February 2018).
 - ammonium metavanadate (AMV) route is the current focus of testwork to produce high purity vanadium pentoxide and will be used for testwork to manufacture vanadium electrolytes.

A conceptual block flow diagram of KRC's proposed hydrometallurgical process is given below.



The two vanadium hydrometallurgical precipitation routes differ from other process routes that use salt roast technology or solvent extraction (SX) methods, both of which were trailed by KRC in 2010 - 2012. The SX process route had previously been adopted by KRC in the Scoping Study of 2012.

- Environmental consultants Animal Plant Mineral (APM) were appointed to review the environmental aspects at Speewah commenced by APM in 2010-2012, provide an overview of environmental approvals, and outline future work required.
- KRC has commenced an Energy Study into power sources, including solar and tidal renewable energy options and funding.

Previously announced developments towards the Scoping Study include:

- The combined Measured, Indicated and Inferred Mineral Resources of 4,712 million tonnes at 0.3% V₂O₅, 2% Ti and 14.7% Fe (reported at a 0.23% V₂O₅ cut-off grade) from the Central, Buckman and Red Hill deposits, now reported in accordance with the JORC Code 2012 (refer to KRC ASX announcement 26 May 2017 for the full resource statement details¹). Only the Measured and Indicated Resources of the Central deposit (approximately 531 million tonnes at 0.32% V₂O₅) will be used in the Scoping Study.
- Beneficiation testwork on core produced a 2.11% V₂O₅ magnetite-ilmenite concentrate, at higher mass yield (16.5%) and metal recoveries, at coarser grain size (120 micron), and with more waste rejection (refer KRC ASX announcement 21 March 2018). This is a significant improvement on the parameters used in the Scoping Study completed in 2012 (KRC ASX 23 April 2012).
- Direct hydrochloric acid leaching of concentrate has demonstrated V, Ti and Fe recoveries >96% at 9M acid strength, 90°C leach temperature, 10% pulp densities under atmospheric conditions (refer KRC ASX announcements 21 August 2017, 9 October 2017, 4 December 2017, 30 January 2018, and 27 February 2018). Further tests are underway to optimise conditions suitable for an operating plant.
- ❖ Hydrothermal precipitation testwork has produced a high purity titanium dioxide (99.5% TiO₂) product (refer KRC ASX announcement 30 January 2018). Further testwork is underway to improve recoveries and increase the grade. Research is also underway to produce titanium metal sponge.
- ❖ Chemical precipitation testwork has produced a high grade vanadium pentoxide (99.48% V₂O₅) has also been produced by a direct hydrous vanadium oxide route (KRC ASX 27 February 2018).

¹ KRC confirms it is not aware of any new information or data that materially affects the information included in this announcement and confirms that all material assumptions and technical parameters underpinning the estimates continue to apply and have not materially changed.

Directors Comments

The Board of King River Copper are very pleased with the focus of our respective engineering teams in developing and presenting scoping work that will very clearly differentiate our project from others around the globe.

The flat lying nature of the Speewah mineralisation gives King River Copper the opportunity to mine very large volumes of material with minimum waste (0.4 tonne waste to 1.0 tonne mineralised material).

The extraction methods that are being trialled to produce high purity products present further opportunities for KRC to more readily value add to the much higher value Vanadium Electrolyte and Titanium Sponge products.

The nature of these different technical studies is complex and process optimisation does take time. Through this comprehensive scoping process, KRC aims to present our shareholders with the most prudent commercial strategy to advance towards the production of high purity Vanadium, Titanium and Iron products at the lowest unit cost.

Anthony Barton
Chairman
King River Copper Limited

Statement by Competent Person

The information in this report that relates to Exploration Results, Mineral Resources, Metallurgy, Engineering and Previous Studies is based on information compiled by Ken Rogers (BSc Hons) 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), and a Chartered Engineer of the IMMM. 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 consents to the inclusion in this report of the matters based on information in the form and context in which it appears.

**Appendix 1: Modifying Factors to be applied to the Speewah Vanadium Mineral Resources
Material Assumptions for the proposed Scoping Study**

Criteria	Commentary
<i>Mineral Resource Estimate for conversion to Ore Reserves</i>	<ul style="list-style-type: none"> CSA Global Pty Ltd updated the Mineral Resource estimate in accordance with the JORC Code (2012) in 2017. KRC confirms it is not aware of any new information or data that materially affects the information included in this announcement and confirms that all material assumptions and technical parameters underpinning the estimate continue to apply and have not materially changed since that time. The total Measured, Indicated and Inferred Mineral Resource in the Central, Buckman and Red Hill deposits is 4,712 million tonnes at 0.3% V₂O₅, 2% Ti and 14.7% Fe reported above a 0.23% V₂O₅ cut off as reported in KRC ASX announcement 26 May 2017. Testwork and studies have not been completed at a Pre-feasibility Study standard to allow for conversion to Ore Reserves.
<i>Site visits</i>	<ul style="list-style-type: none"> Site visits have been undertaken by the Competent Persons involved in the Mineral Resource Estimate and this Concept Study update.
<i>Study status</i>	<ul style="list-style-type: none"> The Speewah vanadium project has been the subject of a number of studies and metallurgical testwork between 2006 and 2012 (see KRC ASX announcement 21 April 2017). These were the basis of a Scoping Study for the production of vanadium pentoxide, titanium dioxide and iron oxide (hematite) products from the Central Vanadium deposit completed in 2012 (see KRC ASX announcement 23 April 2012). The Concept Study in this report is incomplete. It is designed to provide the framework for a Scoping Study into the production of high purity vanadium pentoxide, titanium dioxide and iron oxide from the Central Vanadium deposit. The main outstanding inputs are the completion of a Concept Process Study (including the Process Flow Sheet with costings) by TSW Analytical Pty Ltd, beneficiation costs by engineering consultants Primero Group Ltd, and a final conceptual mining study by CSA Global.
<i>Cut-off parameters</i>	<ul style="list-style-type: none"> The Mineral Resource is reported at 0.23% V₂O₅ cut-off grade. A cut-off grade for the proposed in-pit resources has yet to be determined.
<i>Mining factors or assumptions</i>	<ul style="list-style-type: none"> The mining costs, methods, pit slopes, mining dilution and mining recovery factors, and minimum mining widths have yet to be determined in the final conceptual mining study. The final amounts of Measured and Indicated Mineral Resources in the final pit optimisation shell have yet to be determined. The infrastructure requirements of a mining operation have yet to be determined.
<i>Metallurgical factors or assumptions</i>	<ul style="list-style-type: none"> The proposed beneficiation process involves conventional crushing, grinding and magnetic separation methods similar to other vanadium operations that produce a magnetite-ilmenite concentrate and is appropriate to the style of mineralisation. The proposed vanadium, titanium and iron refining processes are novel and the process flow sheet development is incomplete and ongoing. Reverse circulation and diamond core samples from the Central Vanadium deposit are used in metallurgical testwork. Work has included beneficiation tests to produce a magnetite-ilmenite concentrate, including particle size analyses, magnetic separation tests, comminution testwork, and variability studies. In addition, salt roast, pyrometallurgical, acid leach, solvent extraction, thermal hydrolysis and chemical precipitation recovery tests and studies have been undertaken. Beneficiation and hydrometallurgical testwork and studies are ongoing to refine the process route. A broad range of elements, in addition to V, Ti and Fe, are analysed in all metallurgical testwork to detect any deleterious elements. Chromium, copper, lead, zinc, arsenic, cadmium, sulphur and phosphorus are not sufficiently abundant to cause processing problems or economic and environmental issues. Silica, aluminium and calcium levels in the host rock require fine grinding to produce a concentrate suitable for salt roast process recovery but not hydrometallurgical process routes; only trace quantities of these elements have reported into the vanadium and titanium products generated by KRC testwork. A 6 tonne bulk composite sample collected from drillholes within the high grade zone of the Central vanadium deposit was used in 2011-2012 to make a concentrate for acid leaching and solvent extraction testwork. No pilot scale tests have been conducted for the Speewah Vanadium project.

<i>Environmental</i>	<ul style="list-style-type: none"> • Flora and fauna desktop and field studies have been completed at Speewah in 2009 and 2010 (see KRC ASX announcement 21 April 2012). • No Declared Rare Flora species pursuant to subsection (2) of section 23F of the Wildlife Conservation Act 1950 [WA] and as listed by the Department of Environment and Conservation (2007) and no threatened Flora listed pursuant to section 179 of the Environment Protection Biodiversity Conservation Act 1999 [Commonwealth] have been recorded by Flora surveys within the Speewah Project Area in 2009 and 2010. • Additional work is planned to update these studies as the list of species has changed. • Hydrological, soil and heritage surveys have also been completed and require updating.
<i>Infrastructure</i>	<ul style="list-style-type: none"> • Speewah is located 110km south of the port of Wyndham in Western Australia. Access is via the sealed Great Northern Highway then 45km of unsealed station tracks to site, being a total of 170km by road from Wyndham. • Power and water supply and hauls roads will need to be established. • The Great Northern Highway has been used for bulk transport of minerals to the Wyndham Port from mine sites south of Speewah. • Wyndham Port takes ships of maximum displacement 34,000 DWT. There is also a barge loading facility that may be available. • Kununurra is the main regional centre, located 160km from the Speewah site.
<i>Costs</i>	<ul style="list-style-type: none"> • Capital and operating cost assumptions will be made by consultants addressing the mining, beneficiation and refining costs using industry standard information and databases. • The conceptual mining study will use the relevant mining and beneficiation cost estimates, anticipated mining dilution and mining recovery factors, hydrometallurgical recoveries and processing costs, and metal prices, applied to the Mineral Resource model.
<i>Revenue factors</i>	<ul style="list-style-type: none"> • The current commodity prices for vanadium pentoxide, titanium dioxide and iron oxide (hematite) will be used in the mining, beneficiation and refining studies.
<i>Market assessment</i>	<ul style="list-style-type: none"> • For vanadium, energy storage, steel and Al-Ti-V master alloys continue to drive vanadium demand and prices. Vanadium pentoxide (V₂O₅) prices for flake have doubled since the KRC Scoping Study completed in 2012. This has been influenced by low inventory and high demand. KRC assessment is for an increasing demand in the future for vanadium products in existing and new markets including vanadium flow batteries (VRB) and vanadium electrolyte. • For titanium, the titanium oxide market and price are also increasing, mainly driven by the increasing use in plastics, paints and coatings, cosmetics, and increasing demand for master alloys in lightweight vehicles
<i>Economic</i>	<ul style="list-style-type: none"> • KRC is unable to discuss production targets and forecasting financial information.
<i>Social</i>	<ul style="list-style-type: none"> • There are no Native Title claimant groups over the Speewah vanadium deposit. • KRC commenced discussion with the Woolah Aboriginal Corporation, the owners of Doon Station, in 2011 for the future development of the vanadium project. • Site clearance studies have been undertaken over the Central vanadium deposit and along proposed haul roads. Additional surveys will be required. • Further negotiations and representations are required with all stakeholders.
<i>Other</i>	<ul style="list-style-type: none"> • KRC will be required to apply for a Mining Lease over the Mineral Resource. • There are several material risks common to all mining projects.
<i>Classification</i>	<ul style="list-style-type: none"> • No Ore Reserves have been defined or classified.
<i>Audits or reviews</i>	<ul style="list-style-type: none"> • The Mineral Resource was completed by independent mining consultants CSA Global in 2017. CSA Global's update was a conversion of an earlier estimate by Runge Limited completed in 2012. Both estimates reported the same tonnages and grades. • No Ore Reserve audits have been undertaken.
<i>Discussion of relative accuracy/confidence</i>	<ul style="list-style-type: none"> • The Vanadium Mineral Resource at Speewah has been reported in accordance with the JORC Code (2012) and classified as Measured, Indicated and Inferred. Only the Measured and Indicated Mineral Resources of the Central Vanadium deposit will be used in the Concept Study underway. • Insufficient metallurgical testwork or studies have been completed to the level of a Pre-feasibility Study to allow the definition of Ore Reserves. • The Concept Study underway applies to the Central Mineral Resource and will be more accurately defined when the conceptual mining study identifies a pit shell within the wireframes used for resource estimation.