

---

**Australian Securities Exchange Announcement**

---

**21 August 2017****Highlights**

- ❖ Speewah vanadium resource is the largest in Australia at **4.7 billion tonnes at 0.3% V<sub>2</sub>O<sub>5</sub>**
- ❖ Metallurgical work gave a positive upgrade to concentrate assaying **2.15% V<sub>2</sub>O<sub>5</sub>**, 12.72% TiO<sub>2</sub> and 71.42% Fe<sub>2</sub>O<sub>3</sub>, the highest vanadium grade of all Australian deposits.
- ❖ Recoveries of up to **99% Vanadium and 85% Titanium** were obtained from initial acid leach 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 metallurgical testwork completed by Nagrom the Mineral Processor ("Nagrom") on a composite sample from the high grade zone of the Central Vanadium-Titanium deposit at Speewah.

**Vanadium Concept Study**

As previously reported, KRC is undertaking a Vanadium Concept Study into the production of high purity vanadium pentoxide (V<sub>2</sub>O<sub>5</sub>) and titanium dioxide (TiO<sub>2</sub>) 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 redox flow batteries.

The following activities have been completed:

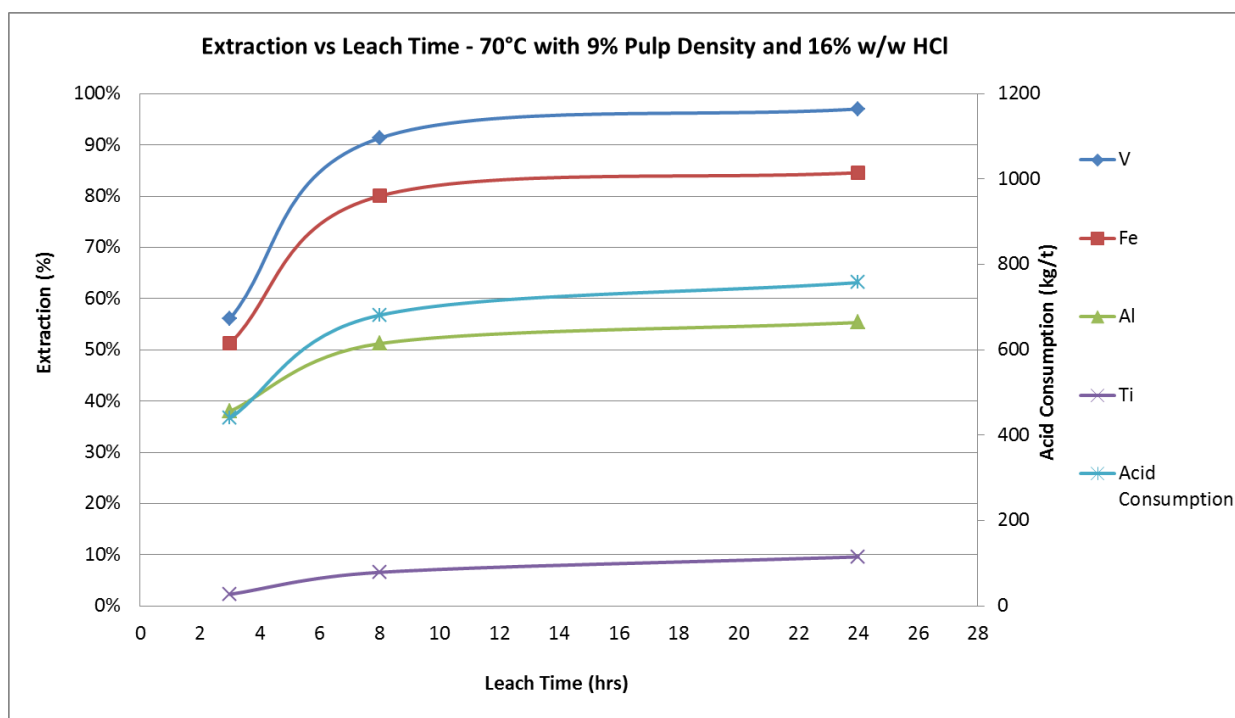
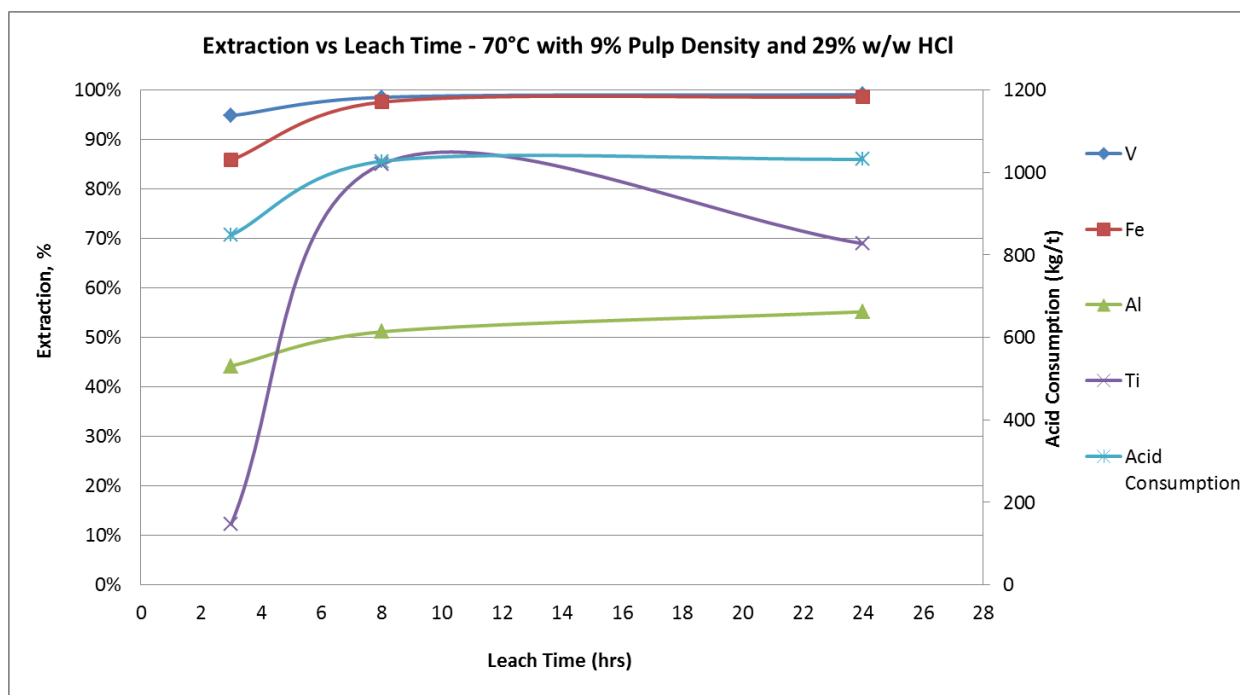
- ❖ CSA Global Pty Ltd has completed an updated resource estimate reporting in accordance with the JORC Code (2012). The updated Measured, Indicated and Inferred Mineral Resource, reported at a 0.23% V<sub>2</sub>O<sub>5</sub> cut-off grade from the Central, Buckman and Red Hill deposits (Figure 1), comprises 4,712 million tonnes at 0.3% V<sub>2</sub>O<sub>5</sub>, 2% Ti and 14.7% Fe. The Measured, Indicated and Inferred Mineral Resource, reported at a 0.23% V<sub>2</sub>O<sub>5</sub> cut-off grade from the high grade zone of the Central deposit, comprises 520 million tonnes at 0.36% V<sub>2</sub>O<sub>5</sub>, 2% Ti and 14.8% Fe. Refer KRC ASX announcement 26 May 2017 for the full resource statement details.
- ❖ Metallurgical testwork:
  - Reverse circulation ("RC") drill and core samples have been selected from storage for testwork.
  - Nagrom have completed beneficiation testwork on a composite of RC drill pulp samples from the high grade zone of the Central Vanadium-Titanium deposit to produce a magnetite concentrate for hydrometallurgical testwork.
  - Nagrom completed initial hydrometallurgical acid leaching tests on the magnetite concentrate.

**Metallurgical Testwork by Nagrom**

Nagrom received a 28.42kg composite sample of RC drill assay pulps from the high grade zone of the Central Deposit for beneficiation and hydrometallurgical test work. The sample assayed 0.369% V<sub>2</sub>O<sub>5</sub>, 3.329% TiO<sub>2</sub> and 21.18% Fe<sub>2</sub>O<sub>3</sub>.

The composite was subjected to Low Intensity Magnetic Separation (LIMS) at 900 gauss to produce a vanadiferous titano-magnetite concentrate through several stages with the final stage ground to P80 0.045mm. The final vanadiferous titano-magnetite concentrate assayed 2.15% V<sub>2</sub>O<sub>5</sub>, 12.72% TiO<sub>2</sub> and 71.42% Fe<sub>2</sub>O<sub>3</sub>.

Nagrom completed 10 microleach tests on 10g samples of the vanadium concentrate using hydrochloric acid (HCl) as the leaching agent at 16% and 29% acid strengths, at 70°C, 9% pulp density with no agitation. Vanadium (V), titanium (Ti) and iron (Fe) extraction recoveries were recorded after 3, 8 and 24 hours of leaching. Vanadium extractions of 94.8% to 99.1% V were obtained in 29% HCl for all three leaching times, with 91.3% and 97% in 16% HCl over 8 and 24 hours. Agitation increased V recovery to 97% in 16% HCl after 8 hours, similar to the 24 hour static leach. Titanium extraction recoveries were lower, with the best extraction of 85% Ti in 29% HCl after 8 hours which dropped to 68.9% after 24 hours suggesting Ti was precipitating out of solution with time. The addition of a reducing agent resulted in only a slight improvement in Ti extraction.



## Conclusions and Next Steps

The  $V_2O_5$  grade of the magnetite concentrate is higher than other Australian vanadium deposits. The  $V_2O_5$  grade of the magnetite concentrate is similar to previous magnetite concentrates generated using the LIMS technique from Speewah RC drill chip samples which were used in the original hydrometallurgical tests in 2010-2012 (KRC ASX announcements 1 April 2010, 15 July 2010, 9 November 2010, 8 February 2012 and 21 April 2017).

The acid leach metal extractions are very encouraging for this first pass test work. Further optimisation tests are required to increase metal recoveries, shorten leach times and reduce acid consumption.

KRC aims to initially trial selective precipitation, solvent extraction and thermal hydrolysis methods to precipitate vanadium pentoxide and titanium dioxide. The results will be reported by the end of the current quarter.

---

## Statements by Competent Persons

### 1.1 Competent Persons Statement – Gavin Beer

Metallurgical statements and analytical data presented in the section of this report entitled “Metallurgical Testwork by Nagrom” have been based on test work compiled and/or reviewed by Mr Gavin Beer BSc (Ext. Metallurgy) who is a Member of The Australasian Institute of Mining and Metallurgy and a Chartered Professional. Mr Beer is a Consulting Metallurgist with sufficient experience with the ore types under consideration and the metallurgical processing techniques employed in this report to qualify as a Competent Person as defined in the 2012 Edition of the ‘Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves’. Mr Beer consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

### 1.2 Competent Persons Statement – Ken Rogers

The information in this report that relates to Exploration Results and Mineral Resources is based on information compiled by Ken Rogers and fairly represents this information. Mr. Rogers is the Chief Geologist and an employee of the Company and a member of the Australian Institute of Geoscientists. 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.



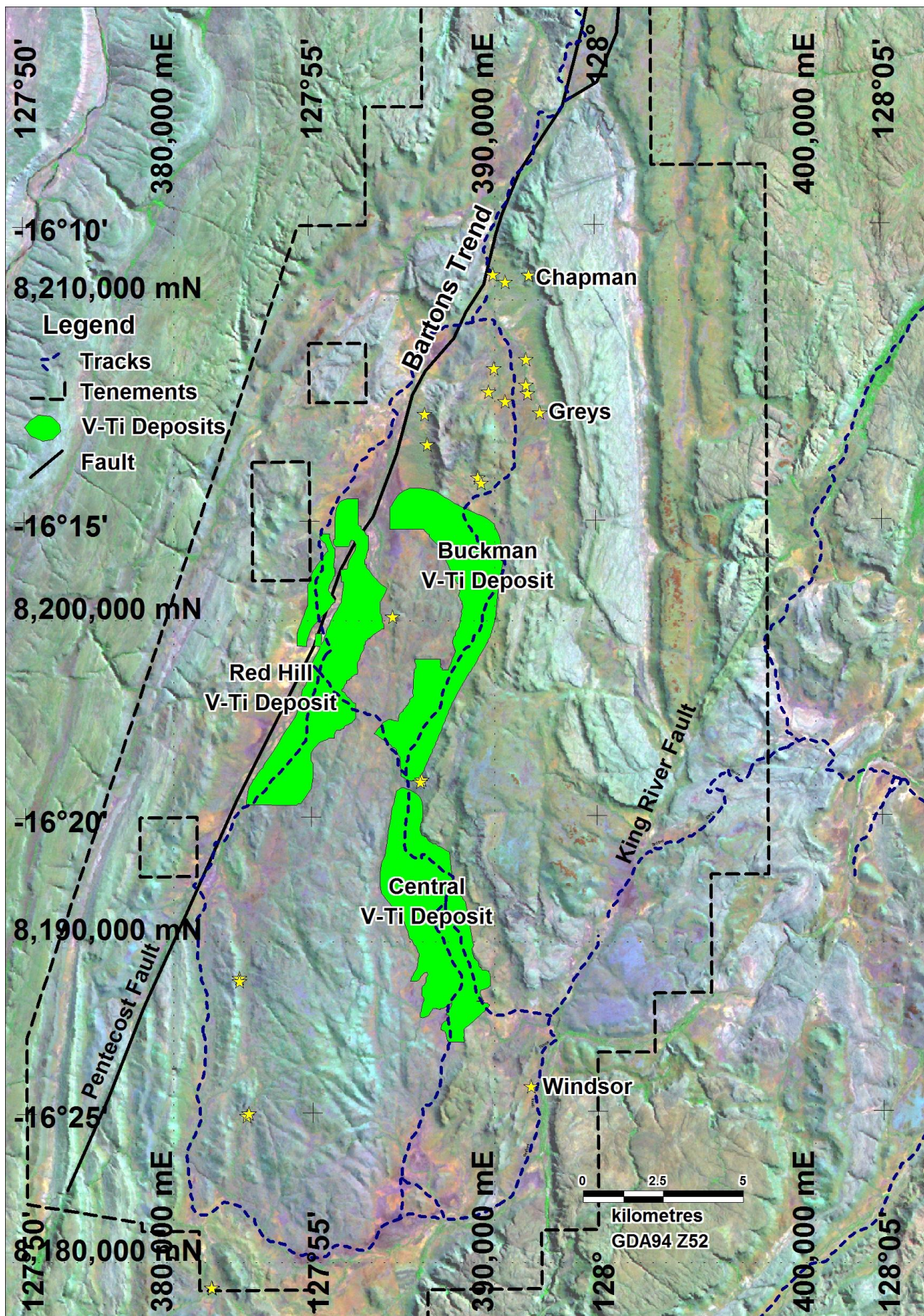


Figure 1: The location of the Central, Buckman and Red Hill Vanadium resource outlines (green) and copper-gold prospects (gold stars).



## Appendix 1: King River Copper Limited Speewah Project JORC 2012 Table 1

The following section is provided to ensure compliance with the JORC (2012) requirements for the reporting of exploration results:

### SECTION 1 : SAMPLING TECHNIQUES AND DATA

Criteria	JORC Code explanation	Commentary
Sampling Techniques	<i>Nature and quality of sampling (e.g. cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc.). These examples should not be taken as limiting the broad meaning of sampling.</i>	This ASX Release dated 18 August 2017 reports on metallurgical test work programmes on the Vanadium deposits at the Company's Speewah Project.  <i>Metallurgical Sample:</i> A 28.42kg sample of RC drill assay pulps were selected for beneficiation and hydrometallurgical test work. The assay pulps had been pulverised to P80 75 microns (0.075mm).
Sampling Techniques (continued)	<i>Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.</i>	<i>Metallurgical Sample:</i> The RC drill assay pulps were selected from several holes within the high grade zone of the Central Vanadium Resource to deliver a grade similar to the resource grade of that zone, namely 0.36% V <sub>2</sub> O <sub>5</sub> , 2% Ti and 14.8% Fe.
	<i>Aspects of the determination of mineralisation that are Material to the Public Report. In cases where 'industry standard' work has been done this would be relatively simple (e.g. 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (e.g. submarine nodules) may warrant disclosure of detailed information.</i>	<i>Metallurgical Sample:</i> The RC drill assay pulps were from the 1m splits from fresh unaltered mineralised rock.
Drilling techniques	<i>Drill type (e.g. core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc.) and details (e.g. core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc.).</i>	No drilling was undertaken.
Drill sample recovery	<i>Method of recording and assessing core and chip sample recoveries and results assessed.</i>	No drilling was undertaken.
	<i>Measures taken to maximise sample recovery and ensure representative nature of the samples.</i>	No drilling was undertaken.
	<i>Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.</i>	No drilling was undertaken.
Logging	<i>Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies.</i>	No drilling or logging was undertaken.
	<i>Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc.) photography.</i>	No drilling or logging was undertaken.
	<i>The total length and percentage of the relevant intersections logged.</i>	No drilling or logging was undertaken.

<i>Sub-sampling techniques and sample preparation</i>	<i>If core, whether cut or sawn and whether quarter, half or all core taken.</i>	No diamond core drilling was undertaken.
	<i>If non-core, whether riffled, tube sampled, rotary split, etc. and whether sampled wet or dry.</i>	No drilling was undertaken.
	<i>For all sample types, the nature, quality and appropriateness of the sample preparation technique.</i>	No drilling was undertaken.
	<i>Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.</i>	No drilling was undertaken.
	<i>Measures taken to ensure that the sampling is representative of the in situ material collected, including for instance results for field duplicate/second-half sampling.</i>	No drilling was undertaken.
	<i>Whether sample sizes are appropriate to the grain size of the material being sampled.</i>	No drilling was undertaken.
<i>Quality of assay data and laboratory tests</i>	<i>The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.</i>	Nagrom the Mineral Processor produced a magnetite concentrate by LIMS for hydrometallurgical tests. Previous RC drill chip assay pulps (P80 -75 microns) selected from several holes within the high grade zone of the Central Vanadium Resource were composited. All solid samples and leach residues have been analysed via XRF. The prepared sample is fused in a lithium borate flux with a lithium nitrate additive. The resultant glass bead is analysed by XRF. Loss on Ignition (LOI) is also conducted to allow for the determination of oxide totals. All leach solutions have been analysed via ICP-OES or ICP-MS. Samples are diluted and then analysed by ICP. Dilutions bring the concentration level to within the analytical range of the ICP instruments. Diluents are matched to the sample matrix. Extractions have been calculated using the total analyte in the leach liquor and wash divided by the total analyte in the calculated head (residue, leach liquor and wash). Nagrom is certified to a minimum of ISO 9001:2008.
	<i>For geophysical tools, spectrometers, handheld XRF instruments, etc., the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc.</i>	No geophysical data was collected.
	<i>Nature of quality control procedures adopted (e.g. standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (i.e. lack of bias) and precision have been established.</i>	Nagrom is certified to a minimum of ISO 9001:2008.
	<i>The verification of significant intersections by either independent or alternative company personnel.</i>	No drilling or other sampling was undertaken.
<i>Verification of sampling and assaying</i>	<i>The use of twinned holes.</i>	No twinned holes have been completed.
	<i>Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.</i>	No drilling or other sampling was undertaken.
	<i>Discuss any adjustment to assay data.</i>	No adjustments or calibrations will be made to any primary assay data collected for the purpose of reporting assay grades and mineralised intervals.

Location of data points	Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.	No drilling or other sampling was undertaken.
	Specification of the grid system used.	No drilling or other sampling was undertaken.
	Quality and adequacy of topographic control.	No drilling or other sampling was undertaken.
Data spacing and distribution	Data spacing for reporting of Exploration Results.	No drilling or other sampling was undertaken.
	Whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied.	No drilling or other sampling was undertaken.
	Whether sample compositing has been applied.	No drilling or other sampling was undertaken.
Orientation of data in relation to geological structure	Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.	No drilling or other sampling was undertaken.
	If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material.	No drilling or other sampling was undertaken.
Sample security	The measures taken to ensure sample security.	Chain of Custody is managed by the Company until samples pass to a duly certified metallurgical laboratory for subsampling, assaying, beneficiation and hydrometallurgical test work. The RC assay pulp bags are stored on secure sites and delivered to the metallurgical laboratory by the Company or a competent agent. The chain of custody passes upon delivery of the samples to the metallurgical laboratory.
Audits or Reviews	The results of any audits or reviews of sampling techniques and data.	No external audits have been completed.

## SECTION 2 : REPORTING OF EXPLORATION RESULTS

Criteria	JORC Code explanation	Commentary
<i>Mineral tenement and land tenure status</i>	<p><i>Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings.</i></p> <p><i>The security of the tenure held at the time of reporting along with any known impediments to obtaining a licence to operate in the area.</i></p>	<p>The Speewah Project comprises 16 exploration licences. Details are listed in Table 2 Schedule of Tenements held at 30 June 2017 reported previously in the June Quarterly Report. The Speewah test work reported in this announcement are from samples collected entirely within E80/2863. The tenements are 100% owned by Speewah Mining Pty Ltd (a wholly owned subsidiary of King River Copper Limited), located over the Speewah Dome, 100km SW of Kununurra in the NE Kimberley. The tenements are in good standing and no known impediments exist. No Native Title Claim covers the areas sampled and drilled. The northern part of the tenements (but not E80/2863) is in the Kimberley Heritage Area.</p>
<i>Exploration done by other parties</i>	<i>Acknowledgment and appraisal of exploration by other parties.</i>	<p>Prior work carried out by Elmina NL in the Windsor area included rock chip sampling and RC and DC drilling to delineate the ABC fluorite deposit in 1988-1993. Mineral Securities Ltd in joint venture with Doral Mineral Industries completed further drilling of the ABC fluorite deposit, a new resource estimate, heritage, environmental and hydrology studies, and a prefeasibility study into the development of an acid grade fluorspar operation.</p>
<i>Geology</i>	<i>Deposit type, geological setting and style of mineralisation.</i>	<p>The ferrovanadium titanium (Ti-V-Fe) deposits occur within the Palaeo-Proterozoic Speewah Dome, which is an elongated antiform trending N-S in the East Kimberley Region of Western Australia. The dome is about 30 km long and attains a maximum width of about 15 km. It comprises sediments and minor volcanics of the Speewah Group, intruded by the Hart Dolerite sill, a large layered, mafic intrusive complex which forms the core of the dome. The vanadium-titanium mineralisation is hosted within a magnetite bearing gabbro unit of the Hart Dolerite, outcropping in places and forming a generally flat dipping body that extends over several kilometres of strike and width. The layered sill is up to 400m thick containing the magnetite gabbro unit which is up to 80m thick.</p> <p>Exposure is limited and fresh rock either outcrops or is at a shallow depth of a few metres.</p> <p>Ti-V-Fe mineralisation occurs as disseminations of vanadiferous titanomagnetite and ilmenite.</p> <p>Within the tenement the layered deposit has been divided into three deposits – Central, Buckman and Red Hill. The test work reported in this announcement was sampled from the Central vanadium deposit.</p>



<i>Drill hole Information</i>	<p>A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes:</p> <ul style="list-style-type: none"> <li>• easting and northing of the drill hole collar</li> <li>• elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar</li> <li>• dip and azimuth of the hole</li> <li>• down hole length and interception depth</li> <li>• hole length.</li> <li>• If the exclusion of this information is justified on the basis that the information is not Material and this exclusion does not detract from the understanding of the report, the Competent Person should clearly explain why this is the case.</li> </ul>	No drilling or other sampling was undertaken.
<i>Data aggregation methods</i>	<i>In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (e.g. cutting of high grades) and cut-off grades are usually Material and should be stated.</i>	No drilling or other sampling was undertaken.
	<i>Where aggregate intercepts incorporate short lengths of high grade results and longer lengths of low grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail.</i>	No drilling or other sampling was undertaken.
	<i>The assumptions used for any reporting of metal equivalent values should be clearly stated.</i>	No metal equivalent values are used for reporting.
<i>Relationship between mineralisation widths and intercept lengths</i>	<i>These relationships are particularly important in the reporting of Exploration Results. If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported. If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (e.g. 'down hole length, true width not known').</i>	No drill results reported.
<i>Diagrams</i>	<i>Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported. These should include, but not be limited to a plan view of drill hole collar locations and appropriate sectional views.</i>	Maps are included in the body of the ASX Release (see Figure 1).
<i>Balanced reporting</i>	<i>Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.</i>	Reports on previous metallurgical results can be found in ASX Releases that are available on our website at <a href="http://www.kingrivercopper.com.au">www.kingrivercopper.com.au</a> , including announcements 1 April 2010, 15 July 2010, 9 November 2010, 8 February 2012 and 21 April 2017
<i>Other substantive exploration data</i>	<i>Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical survey results; geochemical survey results; bulk samples – size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.</i>	Updated vanadium resource estimates in accordance with the JORC 2012 guidelines were reported in KRC ASX announcement 26 May 2017.
<i>Further work</i>	<i>The nature and scale of planned further work (e.g. tests for lateral extensions or depth extensions or large-scale step-out drilling). Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.</i>	Further metallurgical optimization tests are planned to increase metal recoveries, shorten leach times and reduce acid consumption, and trialing selective precipitation, solvent extraction and thermal hydrolysis methods to precipitate vanadium pentoxide and titanium dioxide.