

CENTRAL DEPOSIT MINERAL RESOURCE AMENDMENT

Australian Securities Exchange Announcement

6 November 2019

King River Resources Limited (ASX: KRR) is pleased to advise that Mining Industry Consultants CSA Global Pty Ltd (CSA Global), a Member of the ERM Group of Companies, has completed an amended resource estimate reporting in accordance with the JORC Code (2012)¹ for its 100% owned Speewah Specialty Metals ("SSM") Project in the Kimberley of Western Australia (Figure 1).

KRR requested CSA Global to amend the manner in which the Mineral Resource estimate for the Central deposit (Figure 1) was reported by including Al_2O_3 (alumina) and MgO (magnesia). The 2017 Mineral Resource estimate and an update in April 2019, reported V, V_2O_5 , Fe, and Ti and TiO2 grades, with V_2O_5 calculated as V multiplied by 1.785 and TiO₂ calculated as Ti multiplied by 1.668. CSA Global notes that Al_2O_3 and MgO (oxides) were reported by the primary laboratory. The amended Mineral Resource table is shown in Table 1.

Table 1: Central Mineral Resource estimate (0.23% V ₂ O ₅ cut-off grade)					ff grade)	
IORC	Tonnage		V ₂ O _c			

Zone	JORC classification	Tonnage (Mt)	V (%)	V ₂ O ₅ (%)	Fe (%)	Ti (%)	TiO ₂	Al ₂ O ₃	MgO
	Measured	139	0.21	0.37	15.1	2.1	3.5	12.7	4.5
High Grade	Indicated	135	0.21	0.37	14.8	2.0	3.4	12.7	4.6
	Inferred	247	0.20	0.36	14.7	2.0	3.4	12.7	4.7
Total High Grade	2	520	0.20	0.36	14.8	2.0	3.4	12.7	4.6
	Measured	91	0.15	0.26	14.6	2.0	3.3	12.6	4.5
Low Grade	Indicated	167	0.15	0.27	14.8	2.1	3.4	12.4	4.6
	Inferred	462	0.15	0.27	14.3	1.9	3.2	12.4	4.8
Total Low Grade		720	0.15	0.27	14.5	2.0	3.3	12.4	4.7
6 1: 1	Measured	230	0.18	0.33	14.9	2.1	3.4	12.7	4.5
Combined Zones	Indicated	301	0.17	0.31	14.8	2.0	3.4	12.5	4.6
	Inferred	709	0.17	0.30	14.5	2.0	3.3	12.5	4.8
GRAND TOTAL		1,240	0.17	0.31	14.6	2.0	3.3	12.5	4.7

^{*} Due to the effects of rounding, the total may not represent the sum of all components

From Table 1, the Central deposit comprises a Measured, Indicated and Inferred Mineral Resource of 1,240 million tonnes at 0.31 V_2O_5 , 3.3% TiO_2 , 14.6% Fe, 12.5% Al_2O_3 and 4.7% MgO (reported at a 0.23% V_2O_5 cut-off grade). This combined resource total comprises Measured Mineral Resources of 230 million tonnes at 0.33% V_2O_5 , 3.4% TiO_2 , 14.9% Fe, 12.7% Al_2O_3 and 4.5% MgO, Indicated Resources of 301 million tonnes at 0.31% V_2O_5 , 3.4% TiO_2 , 14.8% Fe, 12.5% Al_2O_3 and 4.6% MgO, and Inferred Resources of 709 million tonnes at 0.30% V_2O_5 , 3.3% TiO_2 , 14.5% Fe, 12.5% Al_2O_3 and 4.8% MgO.

A summary report prepared by CSA Global also forms part of this ASX release (refer Appendix), including JORC Table 1.

^{*} V₂O₅ calculated as V x 1.785

^{*} TiO₂ calculated as Ti x 1.668

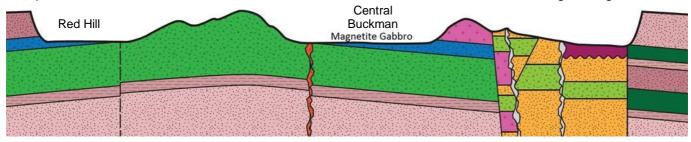
¹ Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves. The JORC Code, 2012 Edition. Prepared by: The Joint Ore Reserves Committee of The Australasian Institute of Mining and Metallurgy, Australian Institute of Geoscientists and Minerals Council of Australia (JORC).



Speewah Geology and Resources

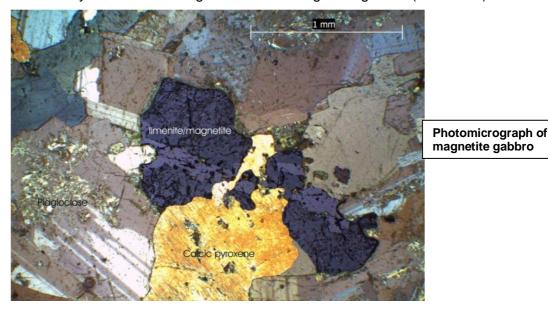
The Speewah Mineral Resource estimate is based on analysis of data collected from several reverse circulation (RC) and diamond drilling campaigns and geological mapping carried out from 2006 to 2011. The geology and resource modelling methodology is the same as set out in the ASX announcement on 26 May 2017 which first reported the resource under JORC 2012.

The reported Mineral Resources lie entirely within fresh magnetite gabbro of the Hart Dolerite sill within the Speewah Dome. The west-east cross section below shows the location of the magnetite gabbro unit.



The magnetite gabbro unit can be subdivided into an upper low grade zone and a basal high grade zone, based on increasing V tenor (grade) in the magnetite grains towards the base of the unit. This V zonation has been classified in the resource estimates.

The alumina and magnesia reside in the feldspar (plagioclase) and pyroxene rock forming minerals respectively which are uniformly distributed throughout the host magnetite gabbro (see below).



Metallurgy

This resource amendment reporting Al₂O₃ and MgO allows for the direct comparison between resource grade and the metallurgical grade of magnetic magnetite-ilmenite concentrates and final refined products.

Beneficiation of the magnetite gabbro involves crushing, grinding and magnetic separation to produce a concentrate. V resides in titanomagnetite and therefore substantially reports to the magnetic fraction. Ti resides in titanomagnetite and ilmenite and also reports to the magnetic fraction. Some non-magnetic feldspar and pyroxene minerals attached to the magnetic grains also report to the concentrate. The concentrate is then leached in sulphuric acid, where most of the V and Fe, about 50% of the Ti, Al and Mg are released into the leach liquor for refining to extract the V, Ti, Fe, Al and Mg metals as oxides.



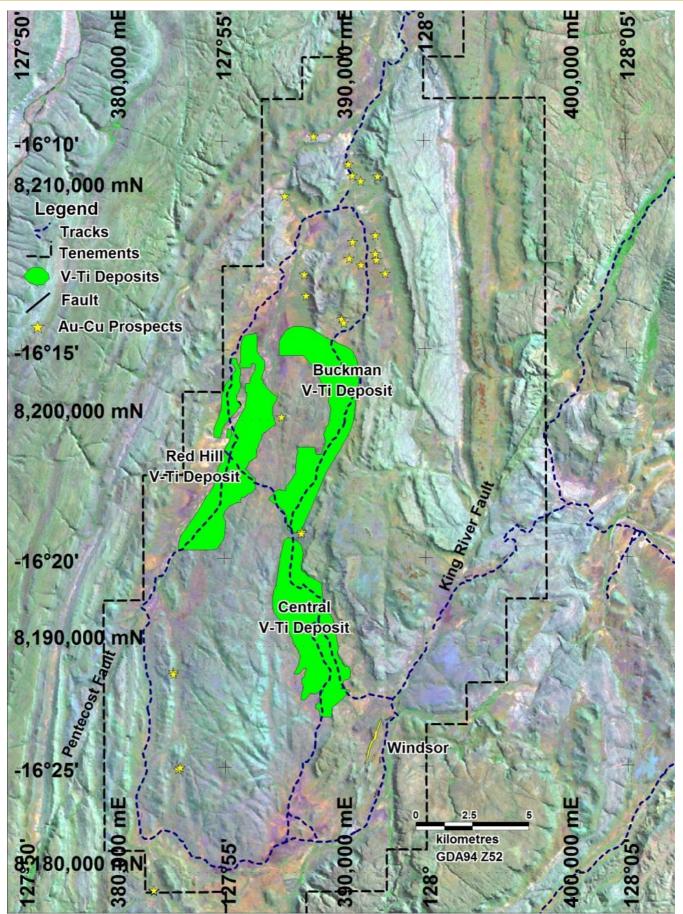


Figure 1: Location of the Central, Buckman and Red Hill Vanadium JORC 2012 resource outlines (green), copper-gold prospects (gold stars), Windsor fluorite deposit, and tenement outlines.



COMPETENT PERSONS STATEMENTS

The information in this report on pages 1 to 3 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 Resources 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.

The information in this report that relates to Mineral Resources is based on information compiled by Aaron Meakin. Mr. Meakin is a full-time employee of CSA Global Pty Ltd and is a Member of the Australasian Institute of Mining and Metallurgy. Mr. Meakin has sufficient experience relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking to qualify as Competent Person as defined in the 2012 edition of the Australasian Code for the Reporting of Exploration Results, Mineral Resources and Ore Reserves (JORC Code). Mr. Meakin consents to the disclosure of the information in this report in the form and context in which it appears.



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CSA Global Mining Industry Consultants

MEMORANDUM

To: Ken Rogers

Cc: Karl Van Olden

Date: 5 November 2019

From: Ben Playford

CSA Global Report Nº: R444.2019

Re: Speewah Project – Block Model Update

CSA Global Pty Ltd Level 2, 201 Leichhardt Street Spring Hill QLD 4000

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EXECUTIVE SUMMARY

CSA Global Pty Ltd (CSA Global), a Member of the ERM Group of Companies, was engaged by King River Resources Limited (KRR), previously known as Speewah Metals Limited (SPM) and King River Copper Limited (KRC), to update the Mineral Resource estimates for the Speewah Project. The Mineral Resource estimates for the Speewah Project were completed by Runge in 2012 and reported in accordance with the JORC Code (2004 Edition) at that time. CSA Global subsequently reported the Mineral Resource estimate in accordance with the JORC Code (2012 Edition) in 2017.

The scope of work completed by CSA Global involved including the additional components: Al_2O_3 and MgO in the Mineral Resource block model for the Central deposit.

The Speewah Project comprises three deposits (Central, Buckman and Red Hill), located on the western part of the Northern Australian Craton. A laterally extensive magnetite gabbro hosts the vanadium-titanium-iron (V-Ti-Fe) mineralisation.

KRR requested CSA Global to review the available assay data for both Al₂O₃ and MgO, assess if the data is suitable and update estimates in the existing mineralised envelopes for the Central deposit.

The previous work surrounding the estimation of the primary ore elements is unchanged.

CSA Global completed the following tasks to check the validity of the available data:

The quality of input drillhole data was assessed

Drillhole data was imported into Surpac and validation was completed

Wireframes were imported into Surpac and validated

The existing block models were loaded into Surpac and checked against the drillhole data

Statistical analysis methods were reviewed, and a judgement made regarding composite selection and high-grade cuts

Grade estimation methodology was reviewed

New fields were added to the model and the grade estimations were performed using in-house Surpac macros.

The data, whilst wide-spaced, was found to be suitable for estimation purposes.

The V, Ti and Fe grades remain unchanged. The Mineral Resource estimate is shown in Table 1.





Table 1: Central Mineral Resource estimate, $0.23\% V_2O_5$ cut-off grade

Zone	JORC classification	Tonnage (Mt)	V (%)	V₂O₅ (%)	Fe (%)	Ti (%)	TiO ₂	Al ₂ O ₃	MgO
	Measured	139	0.21	0.37	15.1	2.1	3.5	12.7	4.5
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GRAND	TOTAL	1,240	0.17	0.31	14.6	2.0	3.3	12.5	4.7

Notes:

- Due to the effects of rounding, the total may not represent the sum of all components.
- V_2O_5 calculated as $V \times 1.785$.
- TiO₂ calculated at Ti x 1.67.

DATA COLLECTION TECHNIQUES

Refer to Green (2012) and Meakin (2017) for information surrounding the drillhole data used in the Mineral Resource estimate.

For the 2019 update of the resource database, the supplied Speewah Microsoft Access drillhole database was first imported into a more robust relational database system. During this process, all collar, survey, geology and assay data underwent validation specifically regarding depth and overlap interval checks. Secondly, as part of the scope of work requirements, a total of 66 analytical result files were checked and formatted accordingly. Analytical results for Al2O3 and MgO from these files with matching samples in the database were then systematically imported. Upon completion, a final resource database export containing results for V, Ti, Fe, and Al2O3 and MgO, was produced.

As per the original assessment, the Competent Person considers that data has been collected according to industry good practise and is therefore suitable to prepare a Mineral Resource estimate to be publicly reported in accordance with the JORC Code (2012 Edition).

MINERAL RESOURCE ESTIMATION APPROACH

The following approach was adopted when completing the Mineral Resource update:

The existing mineralisation wireframes were imported into Surpac and validated.

The database was flagged against intersections with the mineralisation and downhole composites of 1 m were created.

Statistical analysis of the composites was performed to assess the nature of the population. Given the low variability of the data, no top cuts were considered necessary. A strong correlation between the domain (pod) grade distribution and statistics with the overall (total project: Redhill, Buckman and Central) statistics suggested that the data represented a single population for both Al_2O_3 and MgO. This assessment is supported by our understanding of the geology of the deposit. Appendix 1 contains Histograms and statistics for Al_2O_3 and MgO for the Central Zone lenses.

Variography was completed for Al_2O_3 and MgO for each of the mineralised zones. The nugget component varied from 11% to 18%, and long-ranges were modelled for each constituent reflecting good grade continuity. A two-structure spherical model was adopted for variogram modelling.



The previous Mineral Resource estimation modelling defined the Central deposit as comprising two high-grade zones (objects 2 and 12) and two low-grade zones (objects 3 and 13). The modelled mineralisation (coloured by object) and drilling are shown in Figure 1.

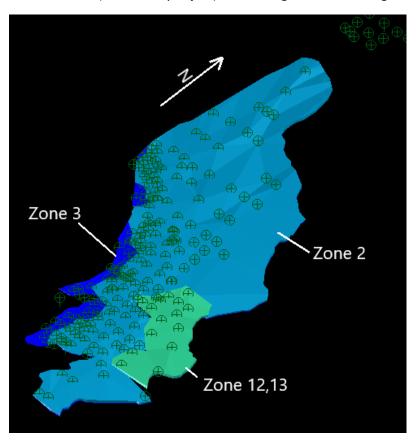


Figure 1: Central deposit and drilling (view looking down from southeast)

Due to the overall lateral size of the greater Speewah Project area, each of the deposits (Central, Buckman and Red Hill) has their own 3D block models of the mineralisation created using Surpac software, with 1 m composite samples (corresponding to the dominant sample length) used to interpolate grades into blocks using ordinary kriging.

The block size chosen represented approximately half of the average drill spacing and the search ellipse was varied to reflect the geometry of each deposit. A parent cell size of 100 m(N) x 50 m(E) x 5 m(RL) was used for the Central and Buckman deposits, with sub-celling to 25 m(N) x 12.5 m(E) x 1.25 m(RL) to honour the wireframe boundaries. A parent cell size of 200 m(N) x 100 m(E) x 5 m(RL) was used for Red Hill, with sub-celling to 50 m(N) x 25 m(E) x 1.25 m(RL).

The search parameters for Al_2O_3 and MgO for Central are shown in Table 2.

Table 2: Central search parameters

Parameter	Pass 1	Pass 2	Pass 3
Major-Semi ratio	1		
Major-Minor ratio (Al ₂ O ₃ /MgO)		7.7/16.7	
Search radius	270 m	540 m	2,000 m
Minimum samples	4	4	2
Maximum samples	16	16	16
Discretisation		5 X by 5 Y by 5 Z	



GLOBAL ESTIMATES

An analysis of the global (all lenses) versus "Pod" populations showed that there was a very limited difference in the populations and that the use of a global average value would be suitable where no data was available to generate block grades.

VALIDATIONS

Following grade interpolation, a three-step process was used to validate the block model. Firstly, drillhole grades were compared with model grades on drill sections. Interpolated grades were then compared with composite grades for each deposit within each mineralised "pod". Lastly, swath plots were prepared which compared drillhole grades with block model grades in slices throughout the deposit. All validation exercises gave confidence in the estimation results.

RECOMMENDATIONS

Several "pods" had limited and wide-spaced Al_2O_3 and MgO assay data and although analysis also shows that these values are not enriched above background values, should any follow up assessment show that these elements materially affect the development of this project then, CSA Global advises the collection of additional assay data to increase confidence in the grade estimations within the assigned pods.

COMPETENT PERSONS STATEMENT

The information in this report that relates to Mineral Resources is based on information compiled by Mr Aaron Meakin. Mr Aaron Meakin is a full-time employee of CSA Global Pty Ltd and is a Member of the Australasian Institute of Mining and Metallurgy. Mr Aaron Meakin has sufficient experience relevant to the style of mineralisation and type of deposit under consideration and to the activity which they are undertaking to qualify as Competent Person as defined in the 2012 Edition of the Australasian Code for the Reporting of Exploration Results, Mineral Resources and Ore Reserves (JORC Code). Mr Aaron Meakin consents to the disclosure of the information in this report in the form and context in which it appears.

DATA FILES

The following files were used/created in the update of the Mineral Resource models.

Table 3: Data files used/created

Deposit	Data type	Filename
	Drillhole database	King_River_Speewah_Surpac_20190917.mdb
Central	Block Model	sp_ctr_ok_20191031.mdl
	Mineralisation wireframes	sp_ctr_res20120131.str/dtm

REFERENCES

Green, A., 2012, Mineral Resource Estimate Speewah Vanadium Deposit Western Australia, Runge Limited Consultants report for Speewah Metals Limited.

Meakin, A., 2017, R199.2017 Speewah Project Mineral Resource Update, CSA Global Memorandum for King River Copper Limited

Meakin, A., 2019, R195.2019 Speewah Project Mineral Resource Estimation, CSA Global Memorandum for King River Resources Limited

King River Resources Ltd. 2019 ASX Announcement (ASX: KRR). Vanadium Resource Amendment 1 April 2019.



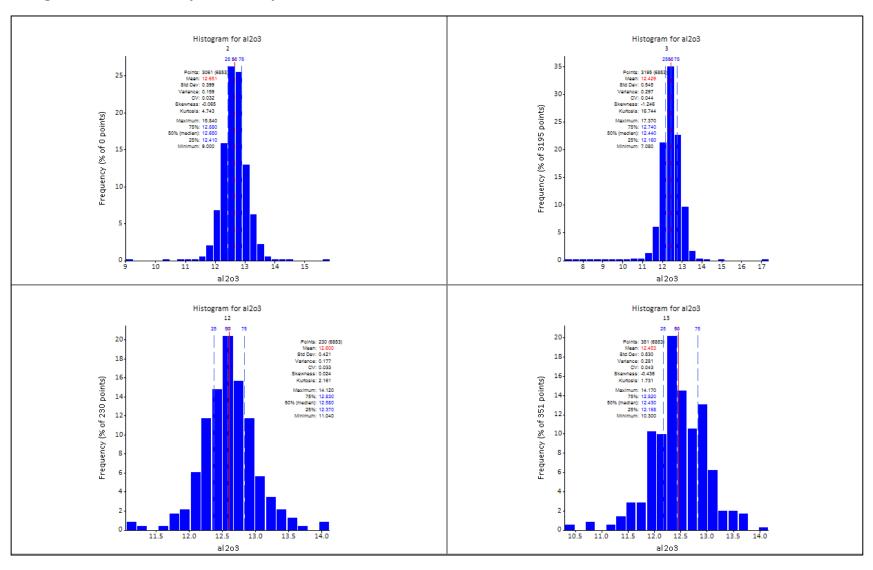
ATTACHMENT 1: SUMMARY STATISTICS

Summary Statistics: Composites and Block Model by Object

Domain	7	2		2	1	2	12	
Element	Al ₂	O ₃	MgO		Al ₂ O ₃		MgO	
	Composite	Block model	Composite	Block model	Composite	Block model	Composite	Block model
Number	3,061	123,403	3,061	123,403	230	15,066	230	15,066
Minimum	9.00	12.01	3.44	3.84	11.04	11.93	3.92	4.17
Maximum	15.84	13.54	10.50	6.83	14.12	13.43	9.18	6.36
Mean	12.65	12.73	4.616	4.65	12.60	12.59	4.56	4.52
Standard deviation	0.399	0.252	0.434	0.362	0.421	0.207	0.570	0.293
Variance	0.159	0.064	0.189	0.131	0.177	0.043	0.325	0.086
Coefficient of variation	0.032	0.020	0.094	0.078	0.033	0.016	0.125	0.065
Domain	3	3	3	3	1	3	1	3
Element	Al ₂	O ₃	MgO		Al ₂ O ₃		MgO	
	Composite	Block model	Composite	Block model	Composite	Block model	Composite	Block model
Number	3,195	154,191	3,195	154,191	351	19,693	351	19,693
Minimum	7.08	10.20	1.65	3.48	10.30	11.59	3.47	3.81
Maximum	17.37	13.66	15.08	9.70	14.17	13.13	11.00	7.94
Mean	12.43	12.41	4.59	4.66	12.45	12.40	4.59	4.51
Standard deviation	0.545	0.354	0.808	0.554	0.530	0.288	0.932	0.621
Variance	0.297	0.126	0.653	0.307	0.281	0.083	0.868	0.386
Coefficient of variation	0.044	0.029	0.176	0.119	0.043	0.023	0.203	0.138

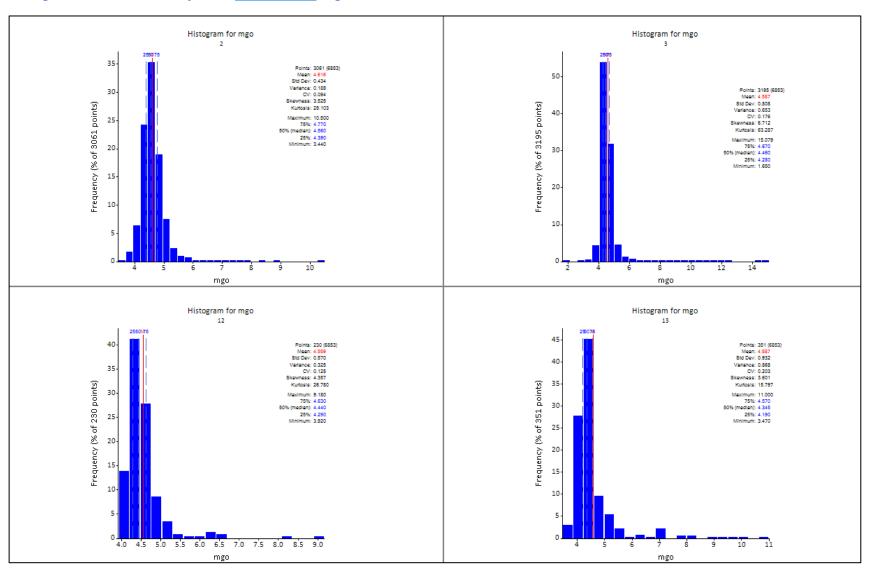


Histograms and Statistics by Zone: Composites Al₂O₃



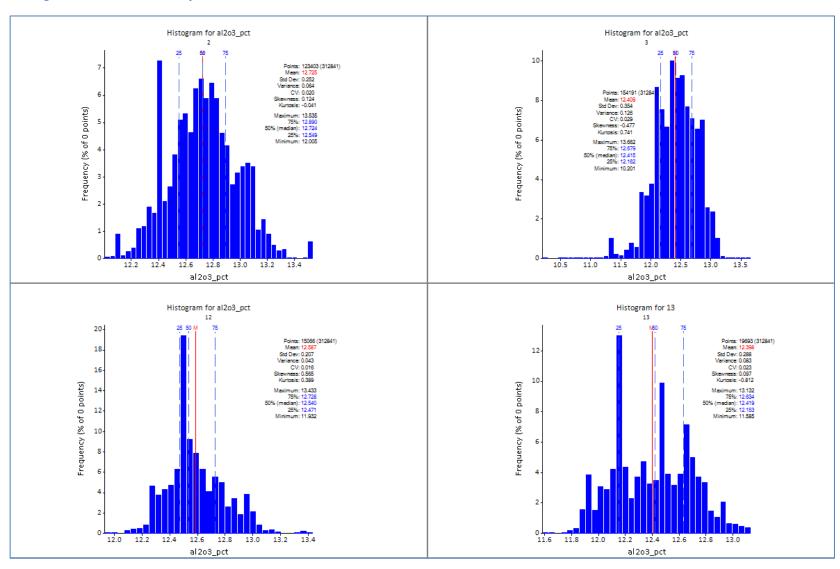


Histograms and Statistics by Zone: Composites MgO



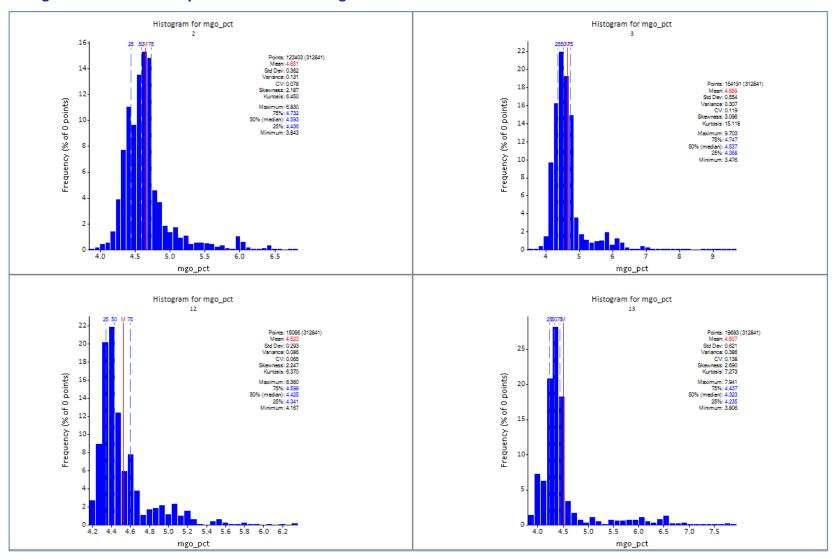


Histograms and Statistics by Zone: Block Model Al₂O₃





Histograms and Statistics by Zone: Block Model MgO





Attachment 2: JORC Table 1

JORC Table 1 Section 1 – Key Classification Criteria

Criteria	JORC Code explanation	Commentary
Sampling techniques	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.	Samples used in the Mineral Resource estimate were mainly obtained through reverse circulation (RC) drilling methods. The Speewah database contains 502 holes including 14 diamond holes and 488 RC holes for a total of 33,390 m.
	Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.	RC samples were split through the use of a trailer-mounted cone splitter and diamond core was sawn in half and then quarters using a core saw.
	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. "RC 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.	1 m samples were taken which were pulverised and submitted for X-ray Fluorescence (XRF) spectrometry with silicate fusion preparation to determine concentrations of Ti, V, Fe, Al_2O_3 and MgO.
Drilling techniques	Drill type (e.g. core, RC, 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.).	RC using a 5.5" hammers and diamond (primarily PQ and HQ) drilling were completed to support the preparation of the Mineral Resource estimate.
Drill sample recovery	Method of recording and assessing core and chip sample recoveries and results assessed.	Recovery data was not provided to CSA Global. Very good ground conditions exist however, and recovery is expected to be very high.
	Measures taken to maximise sample recovery and ensure representative nature of the samples.	RC drilling utilised an external booster typically keeping samples dry to maximise recoveries. A face-sampling hammer was used to minimise contamination. Larger diameter (HQ and PQ) core sizes were used to maximise sample recovery.
	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.	No relationship between grade and recovery has been identified.
Logging	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.	Logging included lithology, sulphides, alteration, vein type and vein percentage. Logging codes were not assigned to all intervals.
	Whether logging is qualitative or	Logging is generally qualitative in nature. Core has been



Criteria	JORC Code explanation	Commentary
	quantitative in nature. Core (or costean, channel, etc.) photography.	photographed either wet and dry.
	The total length and percentage of the relevant intersections logged.	Logging exists for 32,816.2 m of the 33,390.2 m drilled. This represents 98.2% of the database.
Subsampling techniques and	If core, whether cut or sawn and whether quarter, half or all core taken.	Diamond samples were quarter-cored.
sample preparation	If non-core, whether riffled, tube sampled, rotary split, etc. and whether sampled wet or dry.	RC samples were collected using a cone splitter mounted on a trailer at regular 1 m intervals.
	For all sample types, the nature, quality and appropriateness of the sample preparation technique.	RC samples were cone split into calico bags at 1 m intervals. Samples were submitted to Ultratrace Laboratories in Perth for analysis. Samples were dried in a convection oven prior to being crushed using a Jaw Crusher. A sub-sample was then taken using a riffle splitter which was then pulverised using a vibrating disc LM-5 pulveriser. The pulp was then submitted for XRF analysis.
	Quality control procedures adopted for all subsampling stages to maximise representivity of samples.	Subsampling is performed during the preparation stage according to the assay laboratories' internal protocol.
	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.	RC field duplicates were inserted in the sample stream as a check on sample precision. Prior to 2009, one complete drill hole (SRC236A) was resampled to provide 236 field duplicates. From 2009 through 2011, field duplicates were routinely taken at a rate of 1 in every 20 samples. A total of 246 samples were taken in 2009 and 184 duplicates were taken from 2010 through 2011.
	Whether sample sizes are appropriate to the grain size of the material being sampled.	Sample sizes are considered appropriate to the grain size of the material being sampled.
Quality of assay data and laboratory tests	The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.	The techniques are considered total. Samples were analysed using XRF by Ultratrace in Perth with silicate fusion preparation. The method chosen is considered appropriate for the style of mineralisation under consideration.
	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.	No geophysical tools have been used in the preparation of this Mineral Resource estimate.
	Nature of quality control procedures adopted (e.g. standards, blanks,	Field duplicate samples were taken to monitor sample precision from 2009 through 2011.
	duplicates, external laboratory checks) and whether acceptable levels of accuracy (i.e. lack of bias) and precision	Pulps from samples collected during the 2009 programme were submitted to a second laboratory (Genalysis in Perth) for XRF analysis to check the accuracy of the primary laboratory.
	have been established.	The field duplicate results given confidence in sampling procedures, and the results from the umpire laboratory compared well with the primary laboratory which gives confidence in accuracy of the analytical results.
		No certified reference materials or blanks were inserted in the sample stream by KRR.
		Given all available QC results, CSA Global considers that a relatively high level of confidence can be placed in the precision and accuracy of the analytical data used in the preparation of this Mineral Resource estimate.
Verification of	The verification of significant	Significant intersections have been verified by alternative



Criteria	JORC Code explanation	Commentary
sampling and assaying	intersections by either independent or alternative company personnel.	company personnel.
	The use of twinned holes.	No twinning has occurred.
	Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.	Templates have been set up to facilitate geological logging. Prior to the import into the central database, logging data is validated for conformity and overall systematic compliance by the geologist. Assay results are received from the laboratory in digital format.
	Discuss any adjustment to assay data.	No adjustment was made to the assay data.
Location of data points	Accuracy and quality of surveys used to locate drill holes (collar and downhole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.	Almost 90% of the collars have been surveyed using a differential global positioning system (DGPS) instrument, with the remaining surveyed using a hand-held GPS. Downhole deviations have been measured by downhole survey instruments on 3 holes only using a Globaltech Pathfinder digital downhole camera. All but four holes are vertical. The vertical and shallow nature of the drilling means that the absence of downhole surveys is not considered a material risk.
	Specification of the grid system used.	The adopted grid system is GDA 94 Zone 52.
	Quality and adequacy of topographic control.	A topographic file provided by KRR was calibrated for use in the Mineral Resource estimate using DGPS and GPS drillhole collar data. Minor concerns surrounding the suitability/accuracy of this topographic surface used in the Central zone which will need to be assessed.
Data spacing and distribution	Data spacing for reporting of Exploration Results.	Drill spacing is 250 m by 250 m at the Central deposit, and 300 m to 500 m at Buckman and Red Hill.
	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.	The Competent Person believes the mineralised domains have sufficient geological and grade continuity to support the classification applied to the Mineral Resources given the current drill pattern.
	Whether sample compositing has been applied.	Samples were composited to 1 m prior to grade interpolation. This was considered appropriate given that most the samples have been collected over this interval. This allowed the natural variability of the sample data to be maintained prior to grade interpolation.
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.	Most holes are vertical. This allows the holes to intersect the mineralisation at a high angle.
	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.	The relationship between the drilling orientation and the orientation of key mineralised structures is not considered to have introduced a sampling bias.
Sample security	The measures taken to ensure sample security.	A KRR geologist and field assistant were present at the RC drill rig while samples are being drilled and collected. Samples were bagged and tied for transport to the laboratory by a courier. All pulps and residues are currently stored in KRR's West Perth warehouse.
Audits or reviews	The results of any audits or reviews of sampling techniques and data.	No audits or reviews of sampling techniques and data have been carried out.



JORC 2012 Table 1 Section 2 – Key Classification Criteria

Criteria	JORC Code explanation	Commentary
Mineral tenement and land tenure status	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.	The Central Mineral Resource is located on E80/2863. The Exploration Licences are held by Speewah Mining Pty Ltd, a wholly owned subsidiary of KRC. The Mineral Resources are located on Doon Doon pastoral lease in the East Kimberley of Western Australia. No Native Title Claims are located over the tenements.
	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.	E80/2863 is a granted tenement, with an expiry date of 10/8/2017. The tenements are in good standing, and extensions of terms for the tenements have been previously granted on the basis of exploration is incomplete, expenditure commitments have exceeded the minimum requirements, and new exploration and development programmes planned.
Exploration done by other parties	Acknowledgment and appraisal of exploration by other parties.	No exploration completed by other parties is relevant for the Mineral Resource estimates reported herein.
Geology	Deposit type, geological setting and style of mineralisation.	The deposit represents part of a large layered intrusion (the Hart Dolerite), which was intruded c1790 Ma. Since the discovery of Speewah in 2006, at least two distinct types of felsic granophyres and three mafic gabbros have been identified in the Hart Dolerite as follows: • K felsic granophyre (youngest) • Mafic granophyre • Pegmatoidal gabbro • Magnetite gabbro (host unit) • Felsic gabbro (oldest). Given the mode of formation, mineralisation displays excellent geological and grade continuity which has been considered when classifying the Mineral Resource estimate.
Drill hole information	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: Easting and northing of the drill hole collar Elevation or RL (Reduced Level – Elevation above sea level in metres) of the drill hole collar Dip and azimuth of the hole Downhole length and interception depth Hole length.	Exploration results are not being reported.
	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.	Exploration results are not being reported.
Data aggregation methods	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.	Exploration results are not being reported.



Criteria	JORC Code explanation	Commentary
	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.	Exploration results are not being reported.
	The assumptions used for any reporting of metal equivalent values should be clearly stated.	Exploration results are not being reported.
Relationship between mineralisation	These relationships are particularly important in the reporting of Exploration Results.	Exploration results are not being reported.
widths and intercept lengths	If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.	The mineralisation is near horizontal and drilling is generally vertical. The drill holes therefore intersect the mineralisation at close to right angles.
	If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (e.g. "downhole length, true width not known").	Exploration results are not being reported.
Diagrams	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 drillhole collar locations and appropriate sectional views.	Significant discovery not being reported.
Balanced reporting	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.	Exploration results are not being reported.
Other substantive exploration data	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.	No other substantial exploration data has been used in the preparation of this Mineral Resource estimate.
Further work	The nature and scale of planned further work (e.g. tests for lateral extensions or depth extensions or large-scale step-out drilling).	Further work will be focused on: 1. Beneficiation and hydrometallurgical testwork on drill chips and core samples to develop a process flow sheet for the extraction of vanadium pentoxide, titanium dioxide, iron oxide, and high purity alumina (HPA), high purity vanadium pentoxide and vanadium electrolyte; and 2. Prefeasibility studies including pit optimisation studies on the Central deposit.
	Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.	Diagrams have been included in the body of this report showing the dimensions of the modelled Mineral Resource, however no additional drilling is planned in the near future.



JORC 2012 Table 1 Section 3 – Key Classification Criteria

Criteria	JORC Code explanation	Commentary
Database integrity	Measures taken to ensure that data has not been corrupted by, for example, transcription or keying errors, between its initial collection and its use for Mineral Resource estimation purposes.	Logging is completed onto templates using standard logging codes. Analytical results are imported directly into the Access database by a database specialist.
	Data validation procedures used.	Numerous checks were completed on the data. Downhole survey depths were checked to make sure they did not exceed the hole depth, hole dips were checked that they fell between 0 and –90, sample intervals were checked to ensure they did not extend beyond the hole depth defined in the collar table, and assay and survey information were checked for duplicate records. No material validation errors were detected.
		All holes were visually reviewed in Datamine to ensure hole paths were sensible.
Site visits	Comment on any site visits undertaken by the Competent Person and the outcome of those visits.	The Competent Person has not completed a site visit. A CSA Global consultant visited site in 2009 while drilling was being completed at the project.
	If no site visits have been undertaken indicate why this is the case.	Not applicable.
Geological interpretation	Confidence in (or conversely, the uncertainty of) the geological interpretation of the mineral deposit.	A high confidence is placed in the interpretation of the mineral deposit. The mineralisation represents part of a layered intrusion and displays excellent geological continuity.
	Nature of the data used and of any assumptions made.	All interpretations were based on both drill holes and surface mapping. High grade mineralisation was modelled based on a cut-off grade of 0.18% V_2O_5 and low-grade mineralisation was modelled based on a cut-off grade of 0.1% V_2O_5 .
	The effect, if any, of alternative interpretations on Mineral Resource estimation.	Alternative interpretations are unlikely to be plausible.
	The use of geology in guiding and controlling Mineral Resource estimation. The factors affecting continuity both of grade and geology.	Geological logging and geochemistry has been used to guide mineralisation interpretations. Continuity of mineralisation is excellent. The mineralisation is limited to the interpreted gabbro unit
Dimensions	The extent and variability of the Mineral Resource expressed as length (along strike or otherwise), plan width, and depth below surface to the upper and lower limits of the Mineral Resource.	The Speewah Project comprises three deposits which cover a total extent of approximately 17 km in a north-south direction. Each deposit is approximately 2 km in width. The maximum depth of the deposit is approximately 295 m from surface. Individual mineralised zones vary in thickness with the high-grade zone varying from 1 m to 77 m with an average of 19 m and the low grade zone varying from 2 m to 65 m with an average of 24 m.
Estimation and modelling techniques	The nature and appropriateness of the estimation technique(s) applied and key assumptions, including treatment of extreme grade values, domaining, interpolation parameters and maximum distance of extrapolation from data points. If a computer assisted estimation method was chosen include a description of computer software and parameters used.	This update represents the addition of Al_2O_3 and MgO to the existing Mineral Resource estimate for Central Zone. Existing mineralised domains were used in the update with hard boundaries were placed between them for estimation (only samples within each domain were used to inform interpolation). No top cuts were applied following statistical analysis given the low variability of the data. A 1 m composite length was chosen to regularise the data prior to variography and grade interpolation given this was the dominant sample interval Variography was completed for Al_2O_3 and MgO. The nugget
		components varied from 12% to 18%, and long-ranges were modelled for each constituent reflecting the good grade continuity. A two-structure spherical model was adopted for



1		variogram modelling.
		A 3D block model of the mineralisation was created using Surpac software for each deposit, with 1 m composite samples used to interpolate grades into blocks using ordinary kriging.
		A four pass (Central) search ellipse strategy was adopted whereby search ellipses were progressively increased if search criteria could not select sufficient data for the block estimate.
	The availability of check estimates, previous estimates and/or mine production records and whether the Mineral Resource estimate takes appropriate account of such data.	Previous Mineral Resource estimates were undertaken for the Central deposit (CSA Global) in April 2009, and all three deposits by Runge in 2010. An update to the Buckman Mineral Resource was reported by Runge in April 2011.
		In March 2012, Runge reported an updated Mineral Resource for all three deposits under the JORC Code (2004). This report updates the March 2012 Mineral Resource in accordance with the current JORC Code (2012).
		The Mineral Resource estimates increased from 2009 to 2012 due to completion of additional drilling.
	The assumptions made regarding recovery of by-products.	It is assumed that AI and Mg can be recovered as high purity alumina (HPA) and Magnesium Oxide by-products.
	Estimation of deleterious elements or other non-grade variables of economic significance (e.g. sulphur for acid mine drainage characterisation).	No deleterious elements have been estimated.
	In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed.	The block size chosen represented approximately half of the average drill spacing and the search ellipse was varied to reflect the geometry of each deposit. A parent cell size of 100 m N by 50 m E by 5 m RL was used for the Central and Buckman deposits, with sub-celling to 25 m N by 12.5 m E by 1.25 m RL to honour the wireframe boundaries. A parent cell size of 200 m N by 100 m E by 5 m RL was used for Red Hill, with sub-celling to 50 m N by 25 m E by 1.25 m RL.
	Any assumptions behind modelling of selective mining units.	No assumptions were made regarding selective mining units.
	Any assumptions about correlation between variables	No assumptions have been made regarding correlation between variables.
	Description of how the geological interpretation was used to control the resource estimates.	 The following approach was adopted when modelling the mineralisation: A base of oxidation was modelled at each deposit to define the base of the oxidised gabbro which is considered likely to have different metallurgical properties to the remaining mineralisation. This surface represents the base of the soil horizon or oxidised gabbro. High grade mineralisation was modelled based on a cut-off grade of 0.18% V₂O₅. Low grade mineralisation was modelled based on a cut-off grade of 0.1% V₂O₅. A minimum downhole length of 2 m was used. Some zones of internal dilution were included to maintain continuity of the lenses. Interpretations were completed on drill sections. Sectional interpretations were then joined to form 3D solid or surface models, with surface mapping used to guide interpretations near surface. If high or low grade zones were not obvious in drill holes, the interpretation was thinned as required. If no



Criteria	JORC Code explanation	Commentary
		Wireframes were adjusted as required to match the known dip, strike and plunge of each deposit.
	Discussion of basis for using or not using grade cutting or capping.	No grade cuts were applied given the low variability of the data.
	The process of validation, the checking process used, the comparison of model data to drillhole data, and use of reconciliation data if available.	Drillhole grades were initially visually compared with cell model grades. Domain drill hole and block model statistics were then compared. Swath plots were also created to compare drillhole grades with block model grades for easting, northing and elevation slices throughout the deposit.
		The block model reflected the tenor of the grades in the drill hole samples both globally and locally.
Moisture	Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.	Tonnages are estimated on a dry basis. No moisture values were reviewed.
Cut-off parameters	The basis of the adopted cut-off grade(s) or quality parameters applied.	A cut-off grade of $0.23\%~V_2O_5$ has been applied when reporting the Mineral Resource. Material above $0.23\%~V_2O_5$ is well constrained within the host magnetite gabbro.
		The $0.23\%~V_2O_5$ cut-off grade is within the range adopted for reporting Mineral Resources at other Australian Fe-V-Ti deposits for planned open cut operations.
Mining factors or assumptions	Assumptions made regarding possible mining methods, minimum mining dimensions and internal (or, if applicable, external) mining dilution. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential mining methods, but the assumptions made regarding mining methods and parameters when estimating Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the mining assumptions made.	No assumptions regarding mining method have been made. The large shallow nature of the mineralisation means the deposit lends itself to open pit mining.
Metallurgical factors or assumptions	The basis for assumptions or predictions regarding metallurgical amenability. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential metallurgical methods, but the assumptions regarding metallurgical	Beneficiation metallurgical test work involving magnetic separation methods has indicated production of a magnetite concentrate is possible with much higher grades that the current Mineral Resource implies. Sulphuric acid leaching of the concentrate releases up to 95% V, 60% Ti, 85% Fe, 50% Al and 50% Mg into leachate solution.
	treatment processes and parameters made when reporting Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the metallurgical assumptions made.	Refining to extract the metals from the leachate has involved chemical precipitation, thermal hydrolysis and solvent extraction methods. Metallurgical test work is ongoing.
Environmental factors or assumptions	Assumptions made regarding possible waste and process residue disposal options. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider the potential environmental impacts of the mining and processing operation. While at this stage the determination of potential environmental impacts, particularly for a greenfields project, may not always be	Environmental considerations have not yet been considered due to the early stage of this project. It is therefore assumed that waste could be disposed in accordance with a site-specific mine and rehabilitation plan.



Criteria	JORC Code explanation	Commentary
	well advanced, the status of early consideration of these potential environmental impacts should be reported. Where these aspects have not been considered this should be reported with an explanation of the environmental assumptions made.	
Bulk density	Whether assumed or determined. If assumed, the basis for the assumptions. If determined, the method used, whether wet or dry, the frequency of the measurements, the nature, size and representativeness of the samples.	Bulk density determinations adopted the water displacement method.
	The bulk density for bulk material must have been measured by methods that adequately account for void spaces (vugs, porosity, etc.), moisture and differences between rock and alteration zones within the deposit.	The host rocks are not porous hence standard water immersion techniques were considered appropriate.
	Discuss assumptions for bulk density estimates used in the evaluation process of the different materials.	Bulk density was assigned to the block model based on the average of 59 measurements taken from fresh material within two diamond holes. There was little variation in density across the deposit.
Classification	The basis for the classification of the Mineral Resources into varying confidence categories.	The Mineral Resource has been classified following due consideration of all criteria contained in Section 1, Section 2 and Section 3 of JORC 2012 Table 1 as follows:
		 Areas of the deposit were classified as Measured where the drill spacing was 250 m by 250 m. Areas of the deposit were classified as Indicated where the drill spacing was 400 m by 400 m. Subsidiary lodes were classified as Inferred if the drill spacing was broader that 400 m by 400 m within the mineralised envelope.
	Whether appropriate account has been taken of all relevant factors (i.e. relative confidence in tonnage/grade estimations, reliability of input data, confidence in continuity of geology and metal values, quality, quantity and distribution of the data).	Appropriate account has been taken of all relevant criteria including data integrity, data quantity, geological continuity, and grade continuity. Minor concerns surrounding the suitability/accuracy of the topographic surfaces used in the Central zone which will need to be assessed
	Whether the result appropriately reflects the Competent Person's view of the deposit.	The Mineral Resource estimate appropriately reflects the Competent Person's views of the deposit.
Audits or reviews	The results of any audits or reviews of Mineral Resource estimates.	The current model has not been audited by an independent third party but has been subject to CSA Global's internal peer review processes.
Discussion of relative accuracy/ confidence	Where appropriate a statement of the relative accuracy and confidence level in the Mineral Resource estimate using an approach or procedure deemed appropriate by the Competent Person. For example, the application of statistical or geostatistical procedures to quantify the relative accuracy of the resource within stated confidence limits, or, if such an approach is not deemed appropriate, a qualitative discussion of the factors that could affect the relative accuracy and confidence of the estimate.	The Mineral Resource accuracy is communicated through the classification assigned to this Mineral Resource. The Mineral Resource estimate has been classified in accordance with the JORC Code, 2012 Edition using a qualitative approach. All factors that have been considered have been adequately communicated in Section 1 and Section 3 of this Table.
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Criteria	JORC Code explanation	Commentary
	relates to global or local estimates, and, if local, state the relevant tonnages, which should be relevant to technical and economic evaluation. Documentation should include assumptions made and the procedures used.	grade estimate. Grade estimates have been made for each block in the block model.
	These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.	No production has occurred.