

**Australian Securities Exchange Announcement**

**23 February 2018**

**Highlights**

- **High grade Fluorite Mineral Resources at Speewah** (reported in accordance with JORC 2012):
  - **6.7 million tonnes at 24.6% CaF<sub>2</sub>**
- **Scoping Study into the feasibility of producing acid grade fluorspar is proceeding.**

**Mineral Resource Update**

King River Copper Limited (ASX: KRC) is pleased to advise that mining industry consultants CSA Global Pty Ltd (CSA Global) has completed an updated resource estimate reporting in accordance with the JORC Code (2012)<sup>1</sup> for its 100% owned Windsor Fluorite deposit within the Speewah Project in the East Kimberley of Western Australia (Figure 1). The Mineral Resource estimate was previously reported in accordance with the JORC Code (2004 Edition) in 2009 (refer KRC ASX announcement dated 25 August 2009).

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

The updated combined Indicated and Inferred Mineral Resource, reported at a 2% CaF<sub>2</sub> cut-off grade from the A, B, C and E fluorite veins at Windsor (Figure 1) totals 27.2 million tonnes at 9.5% CaF<sub>2</sub>. Within this Mineral Resource there is a high grade Indicated and Inferred Mineral Resource of 6.7 million tonnes at 24.6% CaF<sub>2</sub> at a 10% CaF<sub>2</sub> cut-off grade.

The Mineral Resource estimate is shown in Table 1 reported above a cut-off grade of 2% CaF<sub>2</sub>.

**Table 1: Windsor deposit fluorite Mineral Resource estimate**

Zone	JORC Classification	Tonnage (Mt)	CaF <sub>2</sub> (%)
High Grade	Indicated	4.1	25.3
	Inferred	2.6	23.6
Total High Grade		<b>6.7</b>	<b>24.6</b>
Low Grade	Indicated	8.9	5.0
	Inferred	11.6	4.3
Total Low Grade		20.4	4.6
Combined	Indicated	13.0	11.4
	Inferred	14.2	7.8
<b>Grand Total</b>		<b>27.2</b>	<b>9.5</b>

\* Due to the effects of rounding, the total may not represent the sum of all components

\* CaF<sub>2</sub> calculated as F x 2.0547

<sup>1</sup> 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).

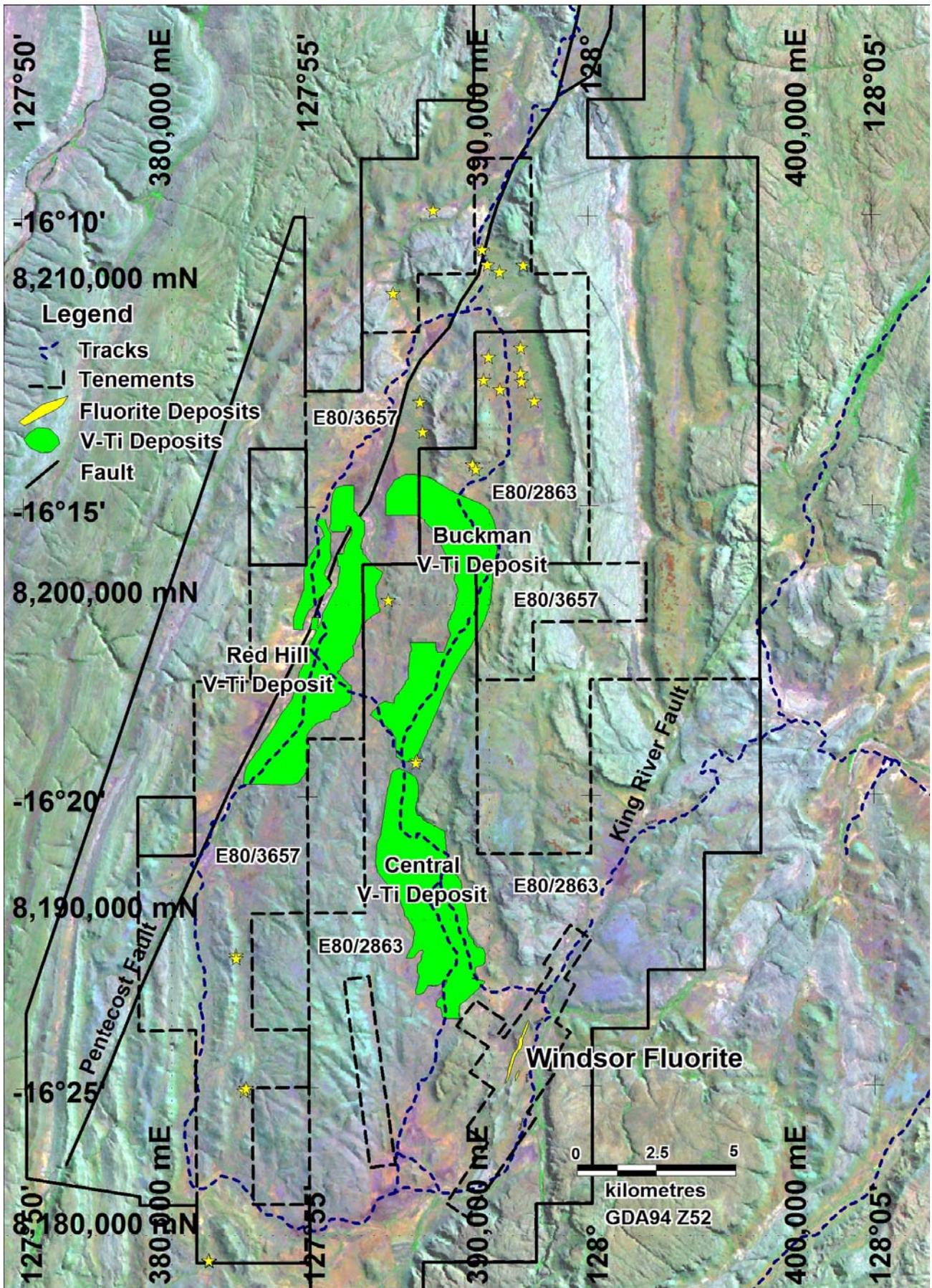


Figure 1: Location of the Windsor fluorite deposit (yellow), together with the vanadium-titanium-iron deposit outlines (green), copper-gold prospects (gold stars) and tenement outlines.

## Windsor Fluorite Geology and Resources

The Windsor fluorite 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 1989 to 2007.

Drilling has delineated four hydrothermal fluorite veins along faults within the King River Fault Zone on the south east margin of the Speewah Dome, located on granted Mining Leases M80/268 and 269 (Figure 1).

The deposit comprises four fluorite-quartz veins (named A, B, C and E) that occur within sandstone and siltstone units of the Speewah Group and granophyre and gabbro units in the Hart Dolerite layered sill complex. The predominantly white-fluorite mineralisation occurs mainly within tabular steeply dipping veins showing very good strike continuity. The veins range in thickness from 1 to 10 m, often flanked by lower grade stockwork and stringer veins, forming an envelope up to 50 m wide, commonly outcropping along a ridge that is over 2km along strike. These properties of the deposit suggest it is likely that the Mineral Resource should be accessible by open pit mining methods.

A total of 389 holes for 28,207 m are included in the drill hole database. 134 RC holes for 13,595 m and 30 diamond holes for 1,941 m are within the Mineral Resource area. A total of 5,268 m of RC and 848 m of diamond intervals lie within the modelled mineralisation envelopes. The majority of drill holes used in the resource estimate have been surveyed at the collar using DGPS and most were drilled 60° grid west. RC holes were sampled at 1 m intervals. Ultra Trace Laboratories in Perth assayed F and Ca routinely using X-ray fluorescence (XRF).

Wireframes used cross sectional interpretations based on mineralised envelopes constructed at a nominal 2% CaF<sub>2</sub> cut-off and high-grade strings were digitised based on a cut-off grade of 10% CaF<sub>2</sub>. Samples within the wireframes were composited to even 1.0 m intervals. Given the low variability of the data, no high grade cuts were considered necessary, and the mineralisation envelopes were extended to the surface as there is very little weathered material.

A Surpac block model was used for the estimate with a block size of 20 m NS by 4 m EW by 20 m vertical with sub-cells of 5 m by 1 m by 5 m. Ordinary Kriging was used for grade interpolation with parameters based on variography completed for CaF<sub>2</sub> for the low- and high-grade domains. The nugget component varied from 25% in the low-grade domain to 18% in the high-grade domain. Interpolation used multiple search passes and the minimum number of samples appropriate for the high and low grade zones. Based on drill core density test work, an average density of 2.68 t/m<sup>3</sup> was applied to the high grade zone and 2.63 t/m<sup>3</sup> to the low-grade zone.

The resource model generated from the drilling data has shown very good geological and grade continuity sufficient to support the Mineral Resource classification levels of Indicated and Inferred. The Mineral Resource was classified as Indicated in areas supported by a drilling pattern of 40 m (along strike) by 20–80 m (down dip) within the modelled envelope. The Mineral Resource was classified as Inferred in areas supported by a drilling pattern of greater than 40 m (along strike) by 20–80 m (down dip) within the modelled envelope.

## **Scoping Study Plan**

KRC plans to complete a Scoping Study into the feasibility of producing acid grade fluorspar ( $\text{CaF}_2$ ) from the Windsor fluorite deposit. Acid grade fluorspar (acid spar >97%  $\text{CaF}_2$ ) is a high value product sold as a concentrate and used to manufacture hydrofluoric acid, fluorocarbon chemicals, foam blowing agents, refrigerants, petroleum refining, and making aluminium fluoride (a flux for smelting alumina to aluminium metal). Acid grade fluorspar prices have increased recently to USD\$480-520 per tonne for 97%  $\text{CaF}_2$ , wet filtercake, FOB China (Industrial Minerals Magazine, 19 January 2018).

The study will build on previous testwork and studies completed between 1989 and 2005 and focus on:

- ❖ Updating the Speewah fluorite resource to comply with the guidelines of the 2012 JORC Code.
- ❖ Reviewing the metallurgy previously completed to produce acid grade fluorspar.
- ❖ Scoping Study including metallurgy, process, plant Capex/Opex costs, plant associated infrastructure, pit optimisation, mine design and scheduling, and economic analysis.

## **COMPETENT PERSONS STATEMENT**

The information in this report on pages 1 and 4 is based on information compiled by Ken Rogers and fairly represents this information. Mr. Rogers is the Chief Geologist and an employee of King River Copper Ltd and a Member of the Australian Institute of Geoscientists (AIG) and a Member of 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 the Appendix of this report that relates to Mineral Resources is based on information compiled by Aaron Green. Mr. Green is a full-time employee of CSA Global Pty Ltd and is a Member of the Australian Institute of Geoscientists. Mr. Green 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. Green consents to the disclosure of the information in this report in the form and context in which it appears.



## MEMORANDUM

**To:** Ken Rogers  
**Cc:** Aaron Green  
**Date:** 22 February 2018  
**From:** Aaron Meakin  
**CSA Global Report N°:** R126.2018  
**Re:** Windsor Fluorite Deposit Mineral Resource estimate

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### EXECUTIVE SUMMARY

CSA Global Pty Ltd (CSA Global) was engaged by King River Copper Limited (KRC) to review a Mineral Resource estimate that was previously prepared by Runge Limited (Runge) for the Speewah (now named Windsor) fluorite deposit, located 100 km southwest of Kununurra in Western Australia. The Mineral Resource estimate was previously reported in accordance with the JORC Code (2004 Edition) in 2009.

KRC requested CSA Global to review the previous work and prepare documentation that would enable the Mineral Resource estimate to be reported in accordance with the JORC Code (2012 Edition)<sup>1</sup>. CSA Global was also required to provide a Competent Person to sign-off the Mineral Resource estimate.

CSA Global completed the following tasks to check the validity of the previous work:

- The quality of input drill hole data was assessed.
- Drill hole data was imported into Datamine and validation was completed.
- Wireframes were imported into Datamine to ensure they were snapped to drill holes and adequately captured the mineralisation.
- The block models were loaded into Datamine and checked against the drill hole data.
- Statistical analysis methods were reviewed, and a judgement made regarding composite selection and high-grade cuts.
- Block modelling and grade estimation methodology was reviewed.
- The reasonableness of the adopted cut-off grade for reporting was assessed.
- The reported Mineral Resource was reproduced using in-house Datamine macros.

Input drill hole data was found to be suitable for preparation of a Mineral Resource to be reported in accordance with the JORC Code, and all technical work was found to have been completed in a competent manner. Furthermore, CSA Global reproduced the Mineral Resource estimates using in house Datamine macros.

The Mineral Resource estimate is shown in *Table 1*, reported above a cut-off grade of 2% CaF<sub>2</sub>.

<sup>1</sup> 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).

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## DATA COLLECTION TECHNIQUES

### Drilling Summary

High-quality reverse circulation (RC) and diamond drill samples have informed the Mineral Resource estimate. A total of 389 holes for 28,207 m are included in the drill hole database. 134 RC holes for 13,595 m and 30 diamond holes for 1,941 m are within the Mineral Resource area. A total of 5,268 m of RC and 848 m of diamond intervals lie within the modelled mineralisation envelopes.

A summary of drill hole location techniques, and sampling, analytical and logging procedures is included in Table 1 of the JORC Code, which forms Attachment 1 to this memorandum.

The deposit has been drilled using a variety of techniques by several companies since 1972. A summary of all drilling is presented in Table 2.

Table 2: Drill Hole Summary

Company	From	To	Hole Prefix	Drilling Method	Number of Holes	Metres
GNBK	1972	1973	SVA	Air-track	129	1,856
	1972	1973	SVD	Diamond	25	2,759
Elmina	1989	1989	SF	RC and Diamond	31	1,738
Speewah	2002	2002	SRC	RC	16	1,010
Doral	2003	2003	SRC	RC	80	6,450
	2003	2003	SDH/RCDD	Diamond	11	1,341
NiPlats	2006	2007	SRC	RC	95	12,153
	2006	2007	SDH	Diamond	2	900
<b>Total</b>					<b>389</b>	<b>28,207</b>

Numerous drill holes were excluded from the Mineral Resource estimate. The holes that were excluded are listed in Table 3. All holes completed from 1972 through 1973 were removed primarily due to the inability to validate this data and incomplete sampling. Several other holes were also removed for quality reasons.

Table 3: Drill Holes excluded from the Mineral Resource estimate

Hole(s) Excluded	Rationale for Exclusion
SDH series	Incomplete sampling. Metallurgical holes.
SF3	Open hole drilling, poor sampling method.
SF12	Location doubtful, conflicts with recent drilling.
SF23	Location doubtful, conflicts with recent drilling.
SRC016	Water bore, not sampled.
SVA series	Open hole drilling, poor sampling method and location doubtful.
SVD series	Location and downhole surveys doubtful. Incomplete sampling.
RC058DD	Not sampled.

A summary of data collection methods is presented below for data that was used in the Mineral Resource estimate.

### Data Location Methods

The collar positions of SF series holes were generally not surveyed. Collars for some of the SF series holes and holes drilled by Doral (SRC/SDH/RCDD series) were surveyed by Spectrum Surveys from Perth, however the methods are not known. Where possible, the remaining collars were surveyed using a differential global positioning system (DGPS) instrument.

Downhole surveys were not available for holes drilled prior to 2003. Doral used an Eastman single shot camera at the collar and end of hole. NiPlats used a GlobalTec Pathfinder digital survey tool, with three shots taken for RC holes and shots taken every 50 m in diamond holes. Suspect surveys were removed from the database used for Mineral Resource estimation.

A topography file was available. The method to create this file is unknown, however it correlates well with drill hole collar positions.

### Geological Logging

Geological logging has been completed on all holes used in the Mineral Resource estimate.

Elmina and Speewah holes were logged using non-standardised codes, while Doral and NiPlats holes were logged using codes developed for the project. NiPlats holes were geologically logged on paper by the supervising geologist and then manually entered into a database in Perth.

Logging was generally qualitative in nature. Lithology, vein%, vein type, oxidation, colour, sulphides, alteration, structure, vein ACA, water, rock description and recovery fields exist in the database table, however not all fields were populated.

### Sampling and Analytical Methods

Sampling and analytical procedures are not known for work carried out prior to 2003, which represents the minority of the dataset used for Mineral Resource estimation.

RC drilling carried out by Doral in 2003 was completed by Mt Magnet Drilling using a Hydco RC 300 drill rig and Colby Drilling using an Aardvark 125S track-mounted drill rig. Samples were collected every metre at the drill site and were split using a dual pass 75:25 riffle splitter. Samples for analysis were collected in Calico bags, while retention samples were stored in UV resistant plastic bags. Duplicate samples were collected every 40 samples and involved re-splitting the retention sample through the riffle splitter.

Diamond drilling completed in 2003 used RC pre-collars with NQ or HQ3 size diamond tails. Core was systematically sampled every metre, with core cut in half using a core saw. Drilling was completed by Mt Magnet Drilling using a Hydco SD 1000 drill rig.

Similar sampling was completed by NiPlats, however McKay Drilling was the contractor. A Schramm T6850 rig with a 5 ¼ inch bit was used for RC drilling and a UDR1200 rig was used for diamond drilling.

UltraTrace Analytical Laboratories was used in 2003 and then by NiPlats from 2006 through 2007. Each sample was sorted and dried, and then the whole sample was pulverised in a ring pulveriser to 90% passing 106 µm. Each sample was cast using a 12:2 flux to form a glass bead which was then analysed by X-ray Fluorescence (XRF).

The CaF<sub>2</sub> assay was then calculated following receipt of the results from the laboratory according to the following formula:

$$CaF_2 = (Ca \text{ (atomic weight)} + 2F \text{ (atomic weight)} / 2F \text{ (atomic weight)}) * F \text{ (assay)}$$

The assumption is therefore made in the Mineral Resource estimate that all fluorine comes from the mineral fluorite (CaF<sub>2</sub>).

CSA Global investigated the relationship between C and F to test the validity of this assumption. Data was first selected within the mineralisation (2% CaF<sub>2</sub>) envelopes and then a regression was completed. Figure 1 shows that the two are highly correlated, particularly above grades of around 5% F, which provides assurance that the two elements are largely contained in a single mineral. Furthermore, the relationship between the two elements is consistent with what would be expected given the theoretical relative contributions of Ca and F in fluorite. CaF<sub>2</sub> contains 51.333% Ca and 48.667% F.

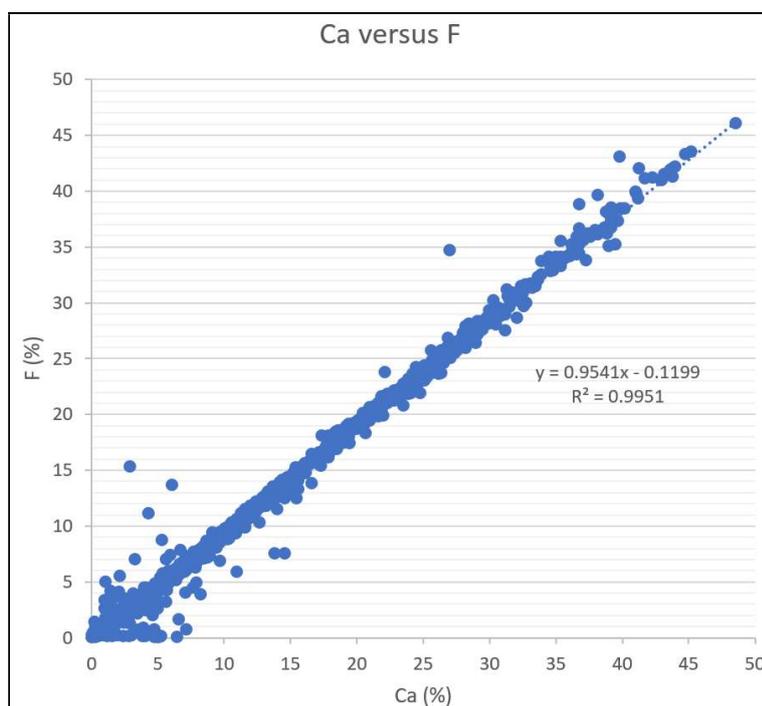


Figure 1: Ca versus F scatter plot

Furthermore, petrographic work was completed by Analabs (1987 and 1995) and Mintek (1995). A range of samples were submitted for petrographic description, including some high- and low-grade fluorite material from core and surface samples along the ABC vein system. The only fluorine-bearing mineral noted was hydrothermal fluorite. Fluorite was noted to both occur contemporaneously and replace

quartz and occur in numerous forms including as fine or coarse discrete grains, clusters, microfracture fillings and patchy aggregates.

Based on the information above, the Competent Person considers it is reasonable to assume the vast majority of fluorine is contained in fluorite. The potential for the presence of other fluorine-bearing minerals should be further investigated however to validate this opinion.

The only quality control (QC) data available is field duplicate data, which was collected from 2003 onwards, and shows a high degree of precision which gives confidence in sampling procedures.

Doral completed bulk density test work in 2003 using the water immersion method. A total of 264 readings were taken, with lithology recorded for each sample. Mean values were calculated for the high- and low-grade mineralisation domains and then applied to the Mineral Resource estimate (refer Mineral Resource estimation section).

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). Only limited QC data has been collected, however, which limits the confidence that can be placed in the accuracy of the analytical data. Certified reference materials (CRMs) and blanks should be routinely inserted in the sample stream in the future to monitor laboratory bias and carry-over contamination respectively. If historical pulps are available, approximately 100 pulps, from a range of locations and across a range of grades, should be sent for analysis at an umpire laboratory as a check on analytical precision.

## DEPOSIT GEOLOGY AND MINERALISATION CONTROLS

The Windsor fluorite deposit occurs on the western edge of the Halls Creek Mobile Zone and on the southeast side of the Speewah Dome (folded Early Proterozoic units of the Kimberly Block). The King River Fault forms the eastern margin of the Kimberly Block and consists of a series of intersecting faults. Fluorite mineralisation is predominantly hosted by north-northeast and northeast trending faults within the King River Fault, with minor occurrences along north-trending normal faults within the Speewah Dome (Rogers, 1998).

The Early Proterozoic Valentine Siltstone and Lansdowne Arkose of the Speewah Group host most of the mineralisation and outcrop as linear north-northeast trending ridges. These sediments dip 10 to 20 degrees to the southeast.

Fluorite veins have been mapped in three areas known as the Main Zone, West Zone and Central Zone. In the Main Zone, at least nine vein sets have been mapped over a strike length of 8 km. These contain the strike-continuous A-B-C veins, and the less understood D-E-F-G veins, Cross and South vein sets. Mineralisation models were created for the A-B-C-E veins and form the basis for Mineral Resource estimation.

The predominantly white-fluorite mineralisation occurs mainly within tabular steeply dipping veins showing very good strike continuity. The veins range in thickness from 1 to 10 m, often flanked by lower grade stockwork and stringer veins, forming an envelope up to 50 m wide.

## GEOLOGICAL MODELLING

Mineralisation envelopes were created using a nominal 2% CaF<sub>2</sub> cut-off grade, based on the known vein orientations which has been confirmed from mapping.

String files were initially created on each drill section, using a minimum 2 m downhole length at the 2% CaF<sub>2</sub> cut-off grade. Within the 2% CaF<sub>2</sub> string files, additional high-grade strings were digitised based on a cut-off grade of 10% CaF<sub>2</sub>. String files were generally extrapolated 20 m from drill holes, unless

supported by drilling on adjacent cross sections. To form the end of the wireframes, end section strings were extended half way to the adjacent section, or 20 m in the absence of drilling along strike. The strings were copied such that the dip, strike and plunge of the zone was honoured.

Sectional string files were joined to create three-dimensional solid models of the mineralisation, which were then validated as solids in Surpac software. Zones of internal dilution were also modelled to enable continuity of the mineralisation envelopes. Figure 2 shows the modelled mineralisation wireframes.

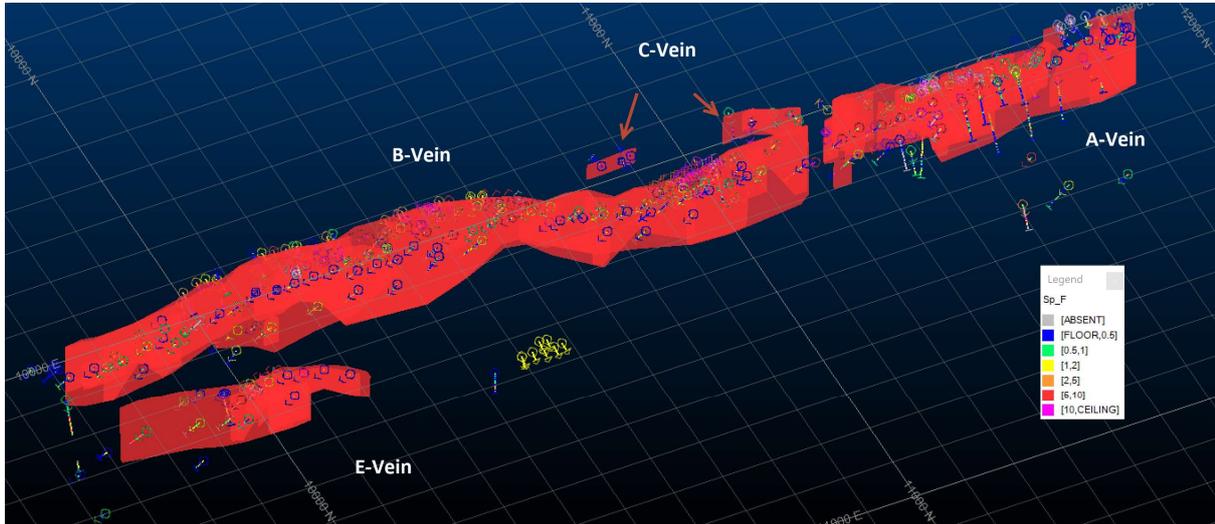


Figure 2: Mineralisation wireframes – oblique view looking down from southeast

No oxidation surfaces were modelled given the material is essentially fresh from surface.

## MINERAL RESOURCE ESTIMATION

The wireframes which were created to encapsulate the fluorite mineralisation were used to flag samples for statistical analysis. Samples were selected for each mineralisation type within each object, and then composited to 1 m for statistical analysis.

CaF<sub>2</sub> statistics were reviewed for the high- and low-grade domains. Given the low variability of the data, no high-grade cuts were considered necessary.

Variography was completed for CaF<sub>2</sub> for the main low-grade domain (Object 2) and the main high-grade domain (Object 20). The results were applied to all other objects. Omnidirectional variograms were used to model the nugget effect. The nugget component varied from 25% in the low-grade domain to 18% in the high-grade domain. The major direction was set to 0 to 180 and the semimajor direction was set to -90 to 90. A two-structure spherical model was adopted for variogram modelling. The variogram parameters which were adopted are shown in Table 4.

Table 4: Variogram Parameters

Zone	Variable	Major Direction	Co	C1	A1	Maj/Semi	Maj/Min	C2	A2	Maj/Semi	Maj/Min
LG	CaF <sub>2</sub>	0-180	25%	35%	7.6	1	4.22	41%	67	1.97	19.14
HG	CaF <sub>2</sub>	0-10	18%	38%	6.2	0.2	1.63	48%	57.3	1.33	12.19

A 3D block model of the mineralisation was created using Surpac software for each deposit, with 1 m composite samples (which corresponds 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 20 m N by 4 m E by 20 m RL was used, with sub-celling to 5 m N by 1 m E by 5 m RL to honour the wireframe boundaries. Search parameters are shown in *Table 5*.

*Table 5: Search Parameters*

Parameter	Pass 1	Pass 2	Pass 3
Bearing	340-30	340-30	340-30
Dip	80-90	80-90	80-90
Plunge	0	0	0
Major-Semi Major Ratio	2 LG, 1 HG	2 LG, 1 HG	1
Major-Minor Ratio	5	5	5
Search Radius	70 m LG, 60 m HG	140 m LG, 120 m HG	300 m
Minimum Samples	10	10	2
Maximum Samples	40	40	40
Discretisation	2 X by 4 Y by 4 Z		
Percentage blocks filled	79	20	1

Based on drill core density test work, average densities were applied to the high grade and low-grade zones. Values of 2.68 t/m<sup>3</sup> and 2.63 t/m<sup>3</sup> were applied to the high- and low-grade zones respectively.

## MARKETING AND METALLURGY

Clause 49 of the 2012 Edition of the JORC Code requires that for minerals defined by a specification, the Mineral Resource must be reported in terms of the mineral or minerals on which the project is to be based and must include a specification for those minerals.

Fluorite (calcium fluoride, CaF<sub>2</sub>), known commercially as ‘fluorspar’, is the principal source of fluorine and fluorine chemicals, including the important industrial chemicals hydrogen fluoride (HF) and hydrofluoric acid (70% HF). A large range of fluorine-containing chemicals (CFCs, HFCs and HCFCs) are used as industrial solvents, refrigerants, aerosol propellants and plastic foams. Synthetic cryolite (Na<sub>3</sub>AlF<sub>6</sub>) and aluminium fluoride (AlF<sub>3</sub>) are used as an electrolyte for smelting aluminium metal. Ceramic-grade fluorspar is used in decorative glassware and enamel, and metallurgical-grade fluorspar is used as a fluxing agent in the steel industry.

Fluorite deposits vary widely in their amenability to concentration by gravity and flotation. For this reason, metallurgical test work is critical to demonstrate that a marketable product can be produced at a project.

Processing of fluorite deposits in two stages, namely Pre-Concentration and Flotation.

Pre-concentration is carried out by heavy media separation (HMS). Fluorite has a specific gravity of 3.1 t/m<sup>3</sup> compared to siliceous gangue which has a specific gravity of around 2.65 t/m<sup>3</sup>, which facilitates

separation of fluorite from gangue. HMS results in higher grades and less volume for flotation test work. This serves to reduce operating costs and enable lower grade material to be processed.

Grinding and classification in fluorite mills utilises cyclones in closed circuit with ball mills. With a specification of <1.5% SiO<sub>2</sub> for acid-grade material, little interlocking of fluorite and silica can be tolerated. Acid-grade material has a CaCO<sub>3</sub> specification of 1.5–2%, hence liberation of CaCO<sub>3</sub> is also important.

Several metallurgical test work programmes have been completed on Windsor fluorite samples. Nedpac Engineering completed test work on surface samples in 1989. Independent Metallurgical Laboratories (IML) then completed test work in 1991 on a representative sample from the deposit. A composite sample was made from 29 individual samples. The samples were taken from the footwall, hangingwall and main vein of Vein A, B, C and D. Amdel Laboratories completed test work in 2003 on RC samples collected from the A and B veins from the 2002 drilling. Amtec Laboratories also completed an extensive test work program in 2004 on a composite sample taken from several drill holes.

Summary results from the main test work programmes are shown in *Table 6*.

*Table 6: Metallurgical Test Work Results*

Laboratory	Test Number	Conc. Weight (%)	CaF <sub>2</sub> Feed Grade (%)	CaF <sub>2</sub> Conc. Grade (%)	SiO <sub>2</sub> Conc. Grade (%)	BaSO <sub>4</sub> Conc. Grade (%)	CaF <sub>2</sub> Recovery (%)
Nedpac	PGH 251	39.6	40.2	95.2	3.20	1.40	93.8
IML	PGH 367	37.8	41.3	98.6	0.86	0.09	90.3
Amdel	RG 5708	17.8	21.6	96.8	2.32	0.05	92.9

The test work programmes demonstrated that Windsor fluorite can be upgraded by HMS. Additional work was recommended however to determine the optimum size at which to carry out HMS, to maximise the rejection fraction of the gangue components, while at the same time minimising fluorite losses.

The work demonstrated that conventional froth flotation can be used to produce 97–98% CaF<sub>2</sub> acid grade concentrate. The flotation test results obtained by IML suggest that an acid-grade fluorite concentrate can be produced which would satisfy market requirements of CaF<sub>2</sub>>98%, SiO<sub>2</sub><1% and BaSO<sub>4</sub><0.2%. Recoveries of >90% were achieved in all tests.

Given the work that was completed, the Competent Person considers that it is reasonable to assume that a marketable product can be produced at the Windsor fluorite deposit. Additional test work is required however to optimise the processing route, which could lead to higher concentrate grades than those report in *Table 6*.

## REASONABLE PROSPECTS HURDLE

Clause 20 of the JORC Code (2012) requires that all reports of Mineral Resources must have reasonable prospects for eventual economic extraction, regardless of the classification of the Mineral Resource. The Competent Person deems there are reasonable prospects for eventual economic extraction of mineralisation on the following basis:

- Metallurgical test work has indicated that acid-grade fluorite can be produced at the project, and there is potential to improve on existing results through refining the processing path.

- The deposit contains high grades and large volumes of fluorine; hence a relatively long project life is possible (subject to completion of necessary mining studies).
- The deposit shows excellent geological and grade continuity, hence grade control risks (ore recovery and dilution) should be able to be appropriately managed during mining.

## MINERAL RESOURCE CLASSIFICATION

The Mineral Resource has been classified in accordance with guidelines contained in the JORC Code. The classification applied reflects the author's view of the uncertainty that should be assigned to the Mineral Resources reported herein. Key criteria that have been considered when classifying the Mineral Resource are detailed in JORC Table 1 which is contained in Attachment 1.

The two main mineralisation veins (A and B) show excellent geological continuity. Grade continuity is also very good within these veins. The drill hole spacing varies throughout these veins, however averages approximately 40 m along strike by 20 m to 80 m down dip. Mapping has also been carried out and has demonstrated continuity of the veins. Poorly tested areas also exist within veins A and B, and subsidiary zones peripheral to the main veins.

After considering data quality, data distribution, and the very good geological and grade continuity at the project, the following approach was adopted when classifying the Mineral Resource:

- Areas that are supported by a drilling pattern of 40 m (along strike) by 20–80 m (down dip) were classified as Indicated.
- Areas that are supported by a drilling pattern of greater than 40 m (along strike) by 20–80 m (down dip) within the modelled envelope were classified as Inferred.

## COMPETENT PERSONS STATEMENT

The information in this report that relates to Mineral Resources is based on information compiled by Mr Aaron Green. Mr Green is a full-time employee of CSA Global Pty Ltd and is a Member of the Australian Institute of Geoscientists. Mr Green 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 Green consents to the disclosure of the information in this report in the form and context in which it appears.

Attachment 1: JORC Table 1

JORC Table 1 Section 1 – Key Classification Criteria

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>	Samples used in the Mineral Resource estimate were mainly obtained through reverse circulation (RC) drilling and diamond (DD) drilling methods. 134 RC holes for 13,595 m and 30 diamond holes for 1,941 m are within the Mineral Resource area. A total of 5,268 m of RC intervals and 848 m of diamond intervals lie within the modelled mineralisation envelopes.
	<i>Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.</i>	RC samples were split using a riffle splitter and diamond core was sawn in half using a core saw.
	<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. “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.</i>	1 m RC samples and diamond samples at various lengths were taken which were pulverised and submitted for X-ray Fluorescence (XRF) spectrometry.
Drilling techniques	<i>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.).</i>	RC using a 5.75” hammers and diamond (NQ and HQ3 size) drilling were completed to support the preparation of the Mineral Resource estimate.
Drill sample recovery	<i>Method of recording and assessing core and chip sample recoveries and results assessed.</i>	Recovery data was not provided to CSA Global. The site visit conducted suggested RC and diamond recoveries are very high. Good ground conditions exist which suggests recovery is likely to be very high.

Criteria	JORC Code explanation	Commentary
	<i>Measures taken to maximise sample recovery and ensure representative nature of the samples.</i>	HQ3 (triple tube) drilling was used to maximise diamond sample recovery. Some standard NQ drilling was also completed.
	<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 relationship between grade and recovery has been identified.
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>	DD core and RC chips were geologically logged, with descriptions of mineralogy and lithology noted.
	<i>Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc.) photography.</i>	Logging was generally qualitative in nature. Lithology, vein%, vein type, oxidation, colour, sulphides, alteration, structure, vein ACA, water, rock description and recovery fields exist in the database table, however not all fields were populated.
	<i>The total length and percentage of the relevant intersections logged.</i>	All holes were geologically logged.
Subsampling techniques and sample preparation	<i>If core, whether cut or sawn and whether quarter, half or all core taken.</i>	DD core was cut in half with a core saw.
	<i>If non-core, whether riffled, tube sampled, rotary split, etc. and whether sampled wet or dry.</i>	RC samples were collected using a riffle splitter at regular 1 m intervals.
	<i>For all sample types, the nature, quality and appropriateness of the sample preparation technique.</i>	Each sample was sorted and dried, and then the whole sample was pulverised in a ring pulveriser to 90% passing 106 µm. Each sample was cast using a 12:2 flux to form a glass bead which was then analysed by XRF.
	<i>Quality control procedures adopted for all subsampling stages to maximise representivity of samples.</i>	Subsampling is performed during the preparation stage according to the assay laboratories' internal protocol.
	<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>	RC field duplicates were inserted in the sample stream as a check on sample precision from 2003 onwards. Results give confidence in sampling procedures.
	<i>Whether sample sizes are appropriate to the grain size of the material being sampled.</i>	Sample sizes are considered appropriate to the grain size of the material being sampled.

Criteria	JORC Code explanation	Commentary
Quality of assay data and laboratory tests	<i>The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.</i>	The techniques are considered total.  Samples were analysed using XRF by Ultratrace in Perth. The method chosen is considered appropriate for the style of mineralisation under consideration.
	<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 tools have been used in the preparation of this Mineral Resource estimate.
	<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>	Field duplicate samples were taken to monitor sample precision from 2003 onwards.  The field duplicate results given confidence in sampling procedure.  No certified reference materials or blanks were inserted in the sample stream.  Given all available QC results, CSA Global considers that a relatively high level of confidence can be placed in the precision of the analytical data used in the preparation of this Mineral Resource estimate. No check on the accuracy of the laboratory results has been completed, or carry-over contamination.
Verification of sampling and assaying	<i>The verification of significant intersections by either independent or alternative company personnel.</i>	A CSA Global representative verified significant intersections.
	<i>The use of twinned holes.</i>	No twinning has occurred.
	<i>Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.</i>	Logging was completed in paper by the supervising geologist and then manually entered into a database in Perth.
	<i>Discuss any adjustment to assay data.</i>	No adjustment was made to the assay data.
Location of data points	<i>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.</i>	The collar positions of SF series holes were generally not surveyed. Collars for some of the SF series holes and holes drilled by Doral (SRC/SDH/RCDD series) were surveyed by Spectrum Surveys from Perth, however the methods are not known. Where possible, the remaining collars were surveyed using a differential global positioning system (DGPS) instrument.

Criteria	JORC Code explanation	Commentary
		<p>Downhole surveys were not available for holes drilled prior to 2003. Doral used an Eastman single shot camera at the collar and end of hole. NiPlats used a GlobalTec Pathfinder digital survey tool, with three shots taken for RC holes and shots taken every 50 m in diamond holes.</p> <p>Suspect surveys were removed from the database used for Mineral Resource estimation.</p>
	<i>Specification of the grid system used.</i>	A local grid was adopted for the Mineral Resource estimate.
	<i>Quality and adequacy of topographic control.</i>	A topography file was available. The method to create this file is unknown, however it correlates well with drill hole collar positions.
<i>Data spacing and distribution</i>	<i>Data spacing for reporting of Exploration Results.</i>	The drill hole spacing varies throughout the main veins, however averages approximately 40 m along strike by 20 m to 80 m down dip. Mapping has also been carried out and has demonstrated continuity of the veins. Poorly tested areas also exist within veins A and B, and subsidiary zones peripheral to the main veins.
	<i>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.</i>	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.
	<i>Whether sample compositing has been applied.</i>	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.
<i>Orientation of data in relation to geological structure</i>	<i>Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.</i>	Holes were generally drilled to the west at –60 degrees to achieve a high angle to the mineralisation.
	<i>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.</i>	The relationship between the drilling orientation and the orientation of key mineralised structures is not considered to have introduced a sampling bias.

Criteria	JORC Code explanation	Commentary
Sample security	<i>The measures taken to ensure sample security.</i>	Sample security measures are unknown.
Audits or reviews	<i>The results of any audits or reviews of sampling techniques and data.</i>	No audits or reviews of sampling techniques and data have been carried out.

#### JORC 2012 Table 1 Section 2 – Key Classification Criteria

Mineral tenement and land tenure status	<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>	All tenements are held in the name of Speewah Mining Pty Ltd, a wholly owned subsidiary of King River Copper Limited.  The Mineral Resource estimate is located on granted Mining Leases M80/268 and M80/269.
	<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>	M80/268 and M80/269 are in good standing with expiry dates of 21 May 2031.
Exploration done by other parties	<i>Acknowledgment and appraisal of exploration by other parties.</i>	Drilling has been completed by numerous companies since 1972. <ul style="list-style-type: none"> <li>• GNBK completed drilling from 1972 through 1973.</li> <li>• Elmina completed drilling in 1989.</li> <li>• Speewah completed drilling in 2002.</li> <li>• Doral completed drilling in 2003.</li> <li>• NiPlats completed drilling from 2006 through 2007.</li> </ul>
Geology	<i>Deposit type, geological setting and style of mineralisation.</i>	Fluorite has been deposited in veins by hydrothermal processes.  The predominantly white fluorite mineralisation occurs mainly within tabular steeply dipping veins showing very good strike continuity. The veins range in thickness from 1 to 10 m, often flanked by lower grade stockwork and stringer veins, forming an envelope up to 50 m wide.
Drill hole information	<i>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:</i> <ul style="list-style-type: none"> <li>• Easting and northing of the drill hole collar</li> </ul>	Exploration results are not being reported.

	<ul style="list-style-type: none"> <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>• Downhole length and interception depth</li> <li>• Hole length.</li> </ul>	
	<p><i>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.</i></p>	Exploration results are not being reported.
Data aggregation methods	<p><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></p>	Exploration results are not being reported.
	<p><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></p>	Exploration results are not being reported.
	<p><i>The assumptions used for any reporting of metal equivalent values should be clearly stated.</i></p>	Exploration results are not being reported.
Relationship between mineralisation widths and intercept lengths	<p><i>These relationships are particularly important in the reporting of Exploration Results.</i></p>	Exploration results are not being reported.
	<p><i>If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.</i></p>	Exploration results are not being reported.
	<p><i>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”).</i></p>	Exploration results are not being 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 drillhole collar locations and appropriate sectional views.</i>	A significant discovery is not being reported.
<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>	Exploration results are not being reported.
<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>	No other substantial exploration data has been used in the preparation of this Mineral Resource estimate.
<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).</i>	Planned work includes: <ul style="list-style-type: none"> <li>1. Mineral Resource update</li> <li>2. Metallurgy review and gap analysis</li> <li>3. Scoping Study including metallurgy, process, plant Capex/Opex costs, plant associated infrastructure, pit optimisation, mine design and scheduling, and financial modelling.</li> </ul>
	<i>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>	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 future.

**JORC 2012 Table 1 Section 3 – Key Classification Criteria**

Criteria	JORC Code explanation	Commentary
<i>Database integrity</i>	<i>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.</i>	Logging was completed on paper and manually entered into a database using standard logging codes. Analytical results were imported directly into database.
	<i>Data validation procedures used.</i>	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.
<i>Site visits</i>	<i>Comment on any site visits undertaken by the Competent Person and the outcome of those visits.</i>	The Competent Person completed a site visit to the project in 2008 and 2009.
	<i>If no site visits have been undertaken indicate why this is the case.</i>	Not applicable.
<i>Geological interpretation</i>	<i>Confidence in (or conversely, the uncertainty of) the geological interpretation of the mineral deposit.</i>	A high confidence is placed in the interpretation of the mineral deposit. The mineralisation displays excellent geological continuity.
	<i>Nature of the data used and of any assumptions made.</i>	All interpretations were based on both drill holes and surface mapping.
	<i>The effect, if any, of alternative interpretations on Mineral Resource estimation.</i>	Alternative interpretations are unlikely to be plausible.
	<i>The use of geology in guiding and controlling Mineral Resource estimation.</i>  <i>The factors affecting continuity both of grade and geology.</i>	Geological logging, surface mapping and geochemistry has been used to guide mineralisation interpretations. Continuity of mineralisation is excellent.
<i>Dimensions</i>	<i>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.</i>	The Windsor fluorite deposit covers a total extent of approximately 2.2 km in a NNE-SSW direction. The mineralisation extends to at least 400 m below surface, however the maximum depth of the reported Mineral Resource is 230 m from surface. Individual mineralised zones vary in thickness with the high-grade zones varying from 1 m to 20 m and the low-grade zones up to 50 m.

Criteria	JORC Code explanation	Commentary
<i>Estimation and modelling techniques</i>	<i>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.</i>	<p>A Mineral Resource estimate has been completed that includes multiple veins. The main veins are named A, B and C. Vein E was also modelled.</p> <p>High- and low-grade domains were modelled, based on CaF<sub>2</sub> cut-off grades of 10% and 2% respectively. Hard boundaries were placed between them for estimation (only samples within each domain were used to inform interpolation).</p> <p>No top cuts were applied following statistical analysis given the low variability of the data.</p> <p>A 1 m composite length was chosen to regularise the data prior to variography and grade interpolation given this was the dominant sample interval.</p> <p>Variography was completed for both the main high grade and low-grade zones.</p> <p>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.</p> <p>A three-pass search ellipse strategy was adopted whereby search ellipses were progressively increased if search criteria could not select sufficient data for the block estimate.</p>
	<i>The availability of check estimates, previous estimates and/or mine production records and whether the Mineral Resource estimate takes appropriate account of such data.</i>	No production has occurred at the deposit. The Mineral Resource estimate reported herein was previously reported in accordance with the 2004 Edition of the JORC Code in 2009.
	<i>The assumptions made regarding recovery of by-products.</i>	No assumptions have been made regarding recovery of by-products.
	<i>Estimation of deleterious elements or other non-grade variables of economic significance (e.g. sulphur for acid mine drainage characterisation).</i>	No deleterious elements have been estimated.
	<i>In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed.</i>	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 20 m N by 4 m E by 20 m RL was used, with sub-celling to 5 m N by 1 m E by 5 m RL to honour the wireframe boundaries.

Criteria	JORC Code explanation	Commentary
	<i>Any assumptions behind modelling of selective mining units.</i>	No assumptions were made regarding selective mining units.
	<i>Any assumptions about correlation between variables</i>	<p>The CaF<sub>2</sub> assay was calculated following receipt of the results from the laboratory according to the following formula:</p> $\text{CaF}_2 = (\text{Ca (atomic weight)} + 2\text{F (atomic weight)} / 2\text{F (atomic weight)}) * \text{F (assay)}$ <p>The assumption is therefore made in the Mineral Resource estimate that all fluorine comes from the mineral fluorite (CaF<sub>2</sub>). CSA Global has review the relationship between Ca and F, in addition to mineralogical and metallurgical test work and considers the assumption reasonable.</p>
	<i>Description of how the geological interpretation was used to control the resource estimates.</i>	<p>Mineralisation envelopes (which constrain the Mineral Resource estimate) were created using a nominal 2% CaF<sub>2</sub> cut-off grade. Geological mapping guided the orientation of the mineralisation envelopes.</p> <p>String files were initially created on each drill section, using a minimum 2 m downhole length at the 2% CaF<sub>2</sub> cut-off grade. Within the 2% CaF<sub>2</sub> string files, additional high-grade strings were digitised based on a cut-off grade of 10% CaF<sub>2</sub>.</p>
	<i>Discussion of basis for using or not using grade cutting or capping.</i>	No grade cuts were applied given the low variability of the data.
	<i>The process of validation, the checking process used, the comparison of model data to drillhole data, and use of reconciliation data if available.</i>	Drill hole grades were initially visually compared with cell model grades. Domain drill hole and block model statistics were then compared. The block model reflected the tenor of the grades in the drill hole samples both globally and locally.
<i>Moisture</i>	<i>Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.</i>	Tonnages are estimated on a dry basis. No moisture values were reviewed.
<i>Cut-off parameters</i>	<i>The basis of the adopted cut-off grade(s) or quality parameters applied.</i>	A cut-off grades of 2% CaF <sub>2</sub> has been applied when reporting the Mineral Resource.
<i>Mining factors or assumptions</i>	<i>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</i>	No assumptions regarding mining method have been made. The large shallow nature of the mineralisation means the deposit lends itself to open pit mining.

Criteria	JORC Code explanation	Commentary
	<p><i>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.</i></p>	
<p><i>Metallurgical factors or assumptions</i></p>	<p><i>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 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.</i></p>	<p>Several metallurgical test work programmes have been completed at the Speewah project. The work demonstrated that Speewah fluorite can be upgraded by heavy media separation (HMS). Additional work was recommended however to determine the optimum size at which to carry out HMS, to maximise the rejection fraction of the gangue components, while at the same time minimising fluorite losses.</p> <p>The work also demonstrated that conventional froth flotation can be used to produce 97–98% CaF<sub>2</sub> “acid-grade” concentrate.</p>
<p><i>Environmental factors or assumptions</i></p>	<p><i>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 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.</i></p>	<p>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.</p>
<p><i>Bulk density</i></p>	<p><i>Whether assumed or determined. If assumed, the basis for the</i></p>	<p>Bulk density determinations adopted the water displacement method.</p>

Criteria	JORC Code explanation	Commentary
	<i>assumptions. If determined, the method used, whether wet or dry, the frequency of the measurements, the nature, size and representativeness of the samples.</i>	
	<i>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.</i>	The host rocks are not porous hence standard water immersion techniques were considered appropriate.
	<i>Discuss assumptions for bulk density estimates used in the evaluation process of the different materials.</i>	Bulk density measurements were taken by Doral in 2003 using the water immersion method. A total of 264 readings were taken, with lithology recorded for each sample. Mean values were calculated for the high- and low-grade mineralisation domains and then applied to the Mineral Resource estimate.
Classification	<i>The basis for the classification of the Mineral Resources into varying confidence categories.</i>	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: <ul style="list-style-type: none"> <li>• Areas of the deposit were classified as Indicated where the drill spacing was 40 m along strike by 20–80 m down dip.</li> <li>• Subsidiary lodes were classified as Inferred if the drill spacing was broader than 40 m along strike by 20–80 m down dip within the mineralised envelope.</li> </ul>
	<i>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).</i>	Appropriate account has been taken of all relevant criteria including data integrity, data quantity, geological continuity, and grade continuity.
	<i>Whether the result appropriately reflects the Competent Person’s view of the deposit.</i>	The Mineral Resource estimate appropriately reflects the Competent Person’s views of the deposit.
Audits or reviews	<i>The results of any audits or reviews of Mineral Resource estimates.</i>	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	<i>Where appropriate a statement of the relative accuracy and confidence level in the Mineral Resource estimate</i>	The Mineral Resource accuracy is communicated through the classification assigned to this Mineral Resource.

Criteria	JORC Code explanation	Commentary
<i>accuracy/ confidence</i>	<i>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.</i>	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.
	<i>The statement should specify whether it 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.</i>	The Mineral Resource statement relates to a global tonnage and grade estimate. Grade estimates have been made for each block in the block model.
	<i>These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.</i>	No production has occurred.