## **BAUXITE RESOURCES LIMITED**



# SIGNIFICANT INCREASE IN GRADE AND CONFIDENCE LEVELS AT WORLD SCALE FELICITAS BAUXITE RESOURCE, DARLING RANGE

#### **Key Points:**

- Significant increase in confidence in resource estimate, with large portion now in measured category.
- Total Felicitas resource (unbeneficiated) now stands at -227.9Mt @ 39.7% Al<sub>2</sub>O<sub>3</sub> (total), 31.3% Al<sub>2</sub>O<sub>3</sub> (available at low temperature), 2.0% SiO<sub>2</sub> (reactive).
- 88% of total resource (199.8Mt) in Indicated and Measured category.
- Measured Category increased by 131% to 122.7Mt.
- Largest single bauxite resource in Australia outside of current producers.

Bauxite Resources Limited (ASX: BAU) ("BRL" or "the Company") is pleased to announce a significant increase in resource estimate quality for the Felicitas bauxite deposit in the Darling Range, Western Australia, coupled with a modest increase in the total tonnage of the resource that now totals 227.9 million tonnes (Mt).

The resource is situated on a small number of large private landholdings located approximately 60km north east of Perth. The resource is close to existing rail infrastructure providing a direct link to Kwinana Port being approximately 120 km away. The Felicitas resource is contained within the Company's Bauxite Alumina Joint Ventures ("BAJV") joint venture with Yankuang Resources Ltd ("Yankuang").

Table 1: Total Felicitas Deposit Resource Classification (25% Available Al<sub>2</sub>O<sub>3</sub> cut off)

Classification	Quantity Mt	Al <sub>2</sub> O <sub>3</sub> %# (available at 148°)	SiO <sub>2</sub> %# (Reactive at 148°)	Al₂O₃ % (total)	SiO₂% (total)
Measured	122.7	31.6	1.7	39.9	7.7
Indicated	77.1	31.0	2.2	39.6	9.8
Inferred	28.2	30.6	2.3	38.9	10.5
Total	227.9	31.3	2.0	39.7	8.7

Note - All grades are unbeneficiated. Totals may differ due to rounding.

# Represents low temperature (148°) bomb digestion

The previous resource estimate, announced in October 2013, stood at 218.7Mt, of which 157.2Mt was classified as indicated or measured. The upgrade of the current resource estimate has resulted from the drilling of an additional 992 vacuum drill holes across the deposit, and reinterpretation of the resource wireframes. Mineralisation is yet to be constrained by drilling and as such potential remains, subject to achieving additional land access, to further enlarge the resource. The Company has a number of studies underway to assess a range of possible mining and transport options and an environmental constraints survey is planned for this spring.

Bill Moss, BAJV General Manager, commented on this resource upgrade, "While this upgrade is modest in terms of tonnage increase, it has provided a significant upgrade in the quality parameters of the bauxite as well as higher confidence levels in the resource. The Felicitas resource is of the scale and quality required to support a significant alumina refinery, which is envisaged under the joint venture between BRL and Yankuang. We are now undertaking targeted pre-feasibility work in preparation for the bankable feasibility study and to allow more meaningful engagement with the communities around the mine."

DATE: 23 September 2014

**ASX Code: BAU** 

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Peter Canterbury, CEO of Bauxite Resources said "Felicitas is the flagship resource for BRL and its joint venture partner Yankuang. The parties are currently discussing how best to move forward this world scale resource under both the Resource and Alumina Refinery joint ventures. To support the projects development both BRL and BAJV are planning over the coming months further environmental and development studies on both the Felicitas deposit and the adjoining 100% BRL Fortuna deposit which will assist the commercialisation of these resources to supply the projected market shortages of both bauxite and alumina over the coming years."

#### **Resource Details**

The Felicitas resource extends over a strike length of 18.5km. The previous resource stood at 218.7Mt, as announced 28 October 2013. The current estimate, completed by RungePincockMinarco (RPM), has resulted from the drilling of an additional 992 vacuum holes, and the reinterpretation of the resource wireframes. A total of 8,931 drill holes have been completed at Felicitas for a total of 61,867m. 5,523 vacuum holes intersected the interpreted bauxite zones for a total of 19,850m within the resource wireframes. Drilling was completed predominantly on a 80 x 80m offset drill pattern, with some areas in filled to 40m x 40m (Figure 2). Drill spacing is considered adequate to establish geological and grade continuity with a high degree of confidence. All holes were drilled vertically, with intersected thicknesses considered as true thickness, given the relatively flat lying nature of mineralisation. The geological setting is laterite over a granite - greenstone basement with mineralised zones formed by the weathering of the underlying basement rocks. The deposit is similar in style to many other bauxite deposits in the region. The deposit displays a bauxite zone up to 16m in thickness (average 4m).

All samples were analysed using FTIR (Fourier Transform Infra Red). Samples returning greater than or equal to 23% available alumina also underwent low temperature caustic (148°) digestion (BOMB) and analysis by ICP-OES using 1.0  $\pm$  0.04g samples to determine available alumina and reactive silica. 10% of these samples underwent X-Ray Fluorescence Spectrometry (XRF) to determine total Al<sub>2</sub>O<sub>3</sub>, Fe<sub>2</sub>O<sub>3</sub>, SiO<sub>2</sub>, TiO<sub>2</sub> and a variety of trace elements. Results reported as available alumina and reactive silica represent partial extraction methods aimed at mimicking the Bayer process.

Wireframes for the resource study were generated using cross sectional interpretations based on mineralised envelopes constructed using down hole geochemistry and associated lithological logging. Ordinary Kriging (OK) was used to estimate the resource. Full details are attached below. The resource is likely to be mined by conventional open cut mining methods. No assumptions have been made regarding metallurgy other than the material could be refined using the industry recognised Bayer processing method.



Figure 1: Bauxite Resources Ltd tenement holding showing Felicitas Resource location

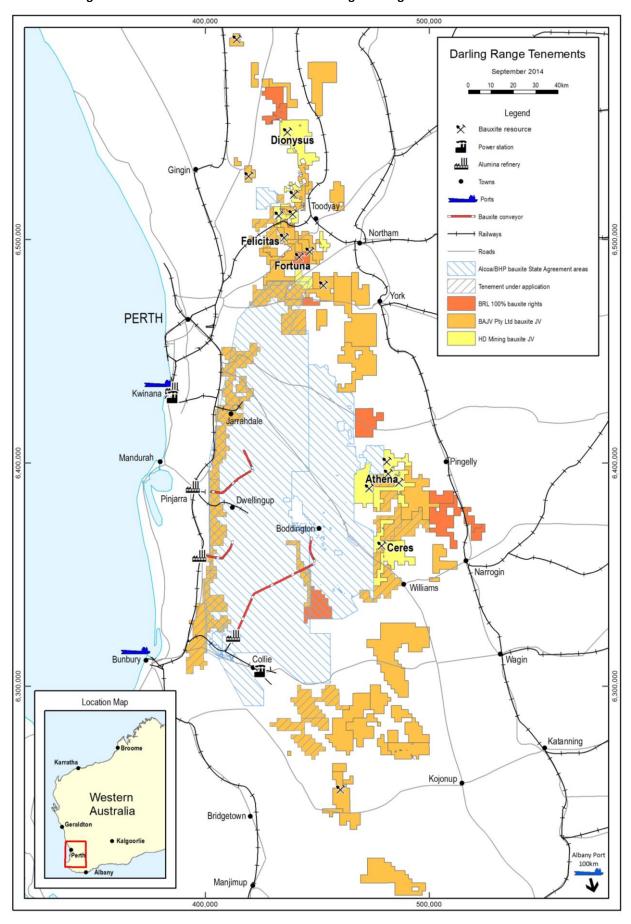




Figure 2: Felicitas and Fortuna Drill hole location map

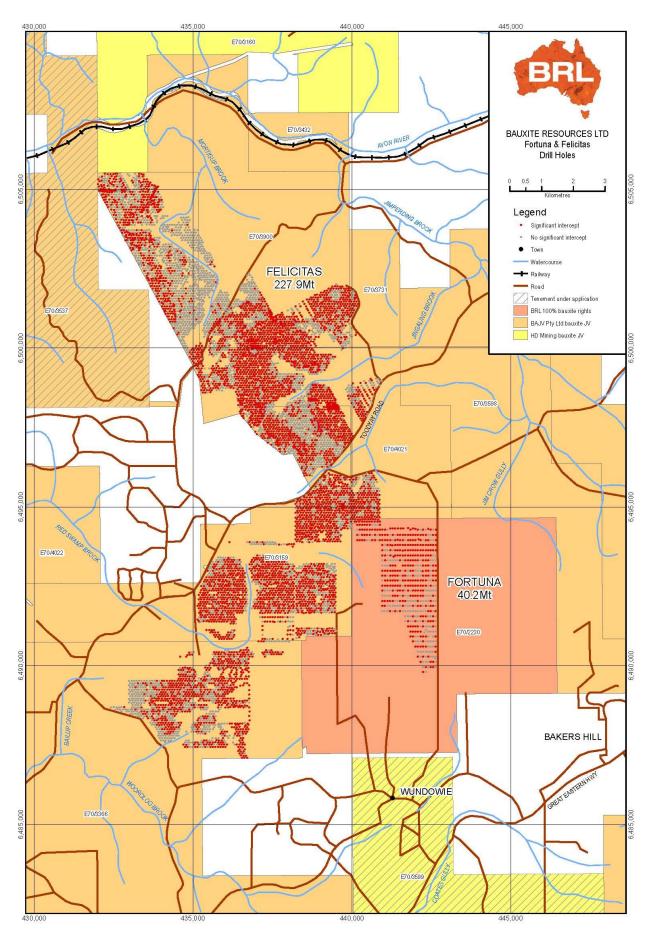
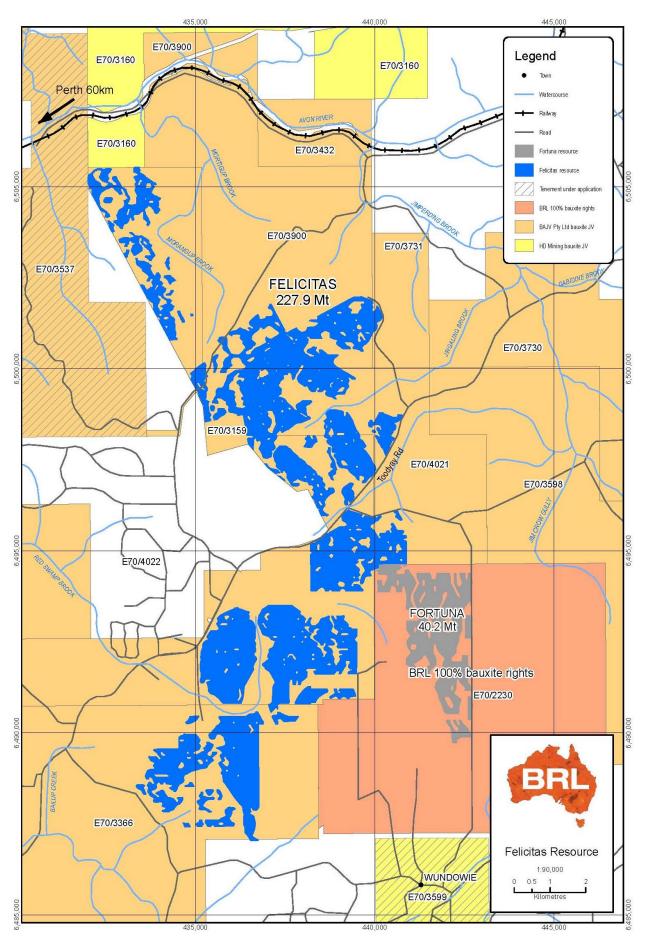




Figure 3: Felicitas and Fortuna Bauxite Resource Outline





#### **Competent Person's Statement**

The information in this report that relates to the **Felicitas** Mineral Resources is based on information compiled by Graham de la Mare who is a Member of the Australian Institute of Geoscientists. Mr de la Mare is employed by RungePincockMinarco (RPM). Mr de la Mare has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking to qualify as a Competent Person as defined in the 2012 Edition of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. Mr de la Mare consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

The information in this announcement that relates to **Exploration results** is based on information compiled by Mark Menzies, who is a member of the Australian Institute of Geoscientists. Mr Menzies is a qualified geologist and a full time employee, and has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking to qualify as a Competent Person as defined in the 2012 Edition of the "Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves". Mr Menzies has consented to the inclusion in this announcement of the Exploration Information in the form and context in which it appears.

#### **JORC Code Compliant Public Reports**

The Company advises that this material may contain summaries of Exploration Results and Mineral Resources as defined in the 2012 Edition of the 'Australian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves' (JORC Code). The JORC compliant Public Reports released to the ASX can be viewed on both the ASX and the Company websites, free of charge.

The company confirms that it is not aware of any new information or data that materially affects the information included in the original market announcement and, in the case of estimates of Mineral Resources that all material assumptions and technical parameters underpinning the estimate in the relevant market announcement continue to apply and have not materially changed. The company confirms that the form and context in which the Competent Person's findings are presented have not materially modified from the original market announcement.

### JORC list of reporting criteria for Felicitas resource upgrade, reported under 2012 reporting guidelines

Criteria	JORC Code explanation	Commentary
Sampling techniques	<ul> <li>Nature and quality of sampling (eg 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.</li> <li>Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.</li> <li>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 (eg 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (eg submarine nodules) may warrant disclosure of detailed information.</li> </ul>	<ul> <li>All sampling at Felicitas was conducted using Vacuum drilling (VAC) methods. Diamond core drilling was conducted to provide samples for bulk density test work and holes were not fully assayed. Probe holes were drilled into the gravel in an attempt to provide samples for density test work.</li> <li>Vacuum drill samples were taken at even 0.5m intervals. Core samples were taken through competent core at various locations down the profile to provide a variety of regolith types for density determination.</li> <li>Vacuum samples were collected at even 0.5m intervals. Whole samples were taken when sample return was less than 2kg. A twin riffle splitter was used for samples weighing more than 2kg, with one split collected in a calico bag for analysis and the remainder dropped on the ground. Sampling and QAQC procedures were carried out to industry standards.</li> </ul>
Drilling techniques	Drill type (eg core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (eg 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).	<ul> <li>All vacuum drilling was undertaken using a tractor mounted vacuum drill rig utilising a 45mm drill bit.</li> <li>Diamond drilling was undertaken using a Comacchio GEO305 rig and PQ3 triple tube recovery in vertical holes at representative locations.</li> </ul>



Criteria	JORC Code explanation	Commentary
Drill sample recovery	<ul> <li>Method of recording and assessing core and chip sample recoveries and results assessed.</li> <li>Measures taken to maximise sample recovery and ensure representative nature of the samples.</li> <li>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.</li> </ul>	<ul> <li>All samples were weighed. This provides an indirect record of sample recovery.</li> <li>All VAC samples were visually checked for recovery, moisture and contamination.</li> <li>No relationship exists between sample recovery and grade.</li> </ul>
Logging	<ul> <li>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.</li> <li>Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.</li> <li>The total length and percentage of the relevant intersections logged.</li> </ul>	<ul> <li>All holes were field logged by company supervised geologists. Weathering, lithology, alteration and mineralogy information were recorded.</li> <li>Diamond core was logged but not fully assayed. These holes were drilled primarily to provide core samples for density test work.</li> <li>All drill holes were logged in full.</li> <li>Logging was qualitative in nature.</li> </ul>
Sub-sampling techniques and sample preparation	<ul> <li>If core, whether cut or sawn and whether quarter, half or all core taken.</li> <li>If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.</li> </ul>	<ul> <li>Core was cut to obtain 15cm whole core samples for bulk density determinations at depths determined by the field geologist.</li> <li>All 0.5m VAC samples were collected at the rig. Typically, entire samples were analysed, however those weighing more than 2kg were split using a twin riffle splitter (50:50) used at the rig. All samples were dry.</li> </ul>
	For all sample types, the nature, quality and appropriateness of the sample preparation technique.	• Samples were submitted to Nagrom Laboratories in Perth for a variety of analysis techniques. Samples at Nagrom were dried in a convection oven for 12 hours at 105°C. Dried samples were weighed to determine that they were less than 2kg and any overweight samples were crushed to -6.3mm if necessary then split to less than 2kg. Samples were then pulverised in a vibrating disc LM-5 pulveriser to produce a 150µm pulp. These pulps were split into 100g samples for retention and analysis. These techniques are appropriate for this type of deposit.
	Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.	• Field QC procedures involved the use of certified reference materials (1 in 40), and field duplicates (1 in 20 for samples >2kg in weight). The field duplicates have accurately reflected the original assay. Recognised laboratories have been used for analysis of samples.
	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.	The standard sampling procedure is to submit the entire sample to Nagrom for analysis. Samples are only split at the rig when the sample weight exceeds 2kg. A twin riffle splitter is used to collect a sample for analysis with the remainder dropped on the ground. Field duplicates are collected from these split samples at a rate of 1:20.
	Whether sample sizes are appropriate to the grain size of the material being sampled.	Sample sizes are considered appropriate to correctly represent the bulk tonnage mineralisation based on: the style of mineralisation, the thickness and consistency of the intersections, the sampling methodology and assay value ranges for bauxite.
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.	• Samples are analysed at Nagrom Laboratory in Perth by Fourier-Transform Infrared (FTIR) Spectroscopy. Samples returning greater than or equal to 23% available alumina underwent low temperature caustic analysis (148°) bomb digestion (BOMB) for analysis by ICP-OES using 1.0 ± 0.04g samples to determine available alumina and reactive silica. 10% of samples returning greater than or equal to 23% available alumina by FTIR were analysed by X-Ray Fluorescence Spectrometry (XRF) to determine total Al <sub>2</sub> O <sub>3</sub> , Fe <sub>2</sub> O <sub>3</sub> , SiO <sub>2</sub> , TiO <sub>2</sub> and a variety of trace elements.



Criteria	JORC Code explanation	Commentary
	<ul> <li>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.</li> <li>Nature of quality control procedures adopted (eg standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (ie lack of bias) and precision have been established.</li> </ul>	No geophysical tools were used to determine any element concentrations used in this resource estimate.  Laboratory QAQC includes the use of internal standards using certified reference material, laboratory duplicates and pulp repeats. The field duplicates have accurately reflected the original assay. Certified standards have generally reported within acceptable limits although bias in the FTIR results show the need for careful calibration when using this analytical technique. Analysis of 100 randomly selected samples was duplicated in an external laboratory (Intertek) and provided correlations better than 0.99 for all the elements. The QAQC results confirm the suitability of the drilling data for use in the Mineral Resource estimation.
Verification of sampling and assaying	<ul> <li>The verification of significant intersections by either independent or alternative company personnel.</li> <li>The use of twinned holes.</li> </ul>	<ul> <li>The logging process involves a geologist on site at all times to log the drill product. Supervisory staff confirm the logging standards at regular intervals. Some significant intersections have been the site of subsequent diamond drilling for reference material.</li> <li>Twin holes have been drilled to either confirm existing intersections or to act as re-drills for holes that originally encountered problems or were incomplete.</li> </ul>
	<ul> <li>Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.</li> <li>Discuss any adjustment to assay data.</li> </ul>	BAJV geologists logged all drill samples at the rig, with a minimum logging interval of 0.5m. Regular chiptray samples were collected as permanent physical records for audit and validation purposes, and reconciliation of assay results with geology. All logging data was captured in digital logging devices to ensure consistency of coding and minimise data entry errors.
Location of data points	Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.      Specification of the grid system used.	<ul> <li>No adjustments were made to assay data.</li> <li>The majority of drill holes have been accurately surveyed in MGA grid co-ordinates. A total of 262 holes (&lt;3%) have nominal co-ordinates which were located using a handheld GPS. Down hole surveys have not been taken as drill holes are all less than 32.5m in depth and drilled vertically through the predominantly flat lying laterite.</li> <li>Collars have been located in UTM, MGA94, Zone 50K co-ordinates.</li> </ul>
	Quality and adequacy of topographic control.	<ul> <li>Topographic surface generated as a Triangulated Irregular Network (TIN) from drill hole collar and topographical coordinates obtained by RTK survey within the exploration area, by qualified surveyors (Horizon Mapping Pty Ltd). All survey points and collar locations collected by RTK survey methods are accurate to 5cm.</li> </ul>
Data spacing and distribution	<ul> <li>Data spacing for reporting of Exploration Results.</li> <li>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.</li> <li>Whether sample compositing has been applied.</li> </ul>	<ul> <li>The nominal drill hole spacing is 80m by 80m with some areas in-filled to 40m by 40m.</li> <li>Close spaced (5m) cross patterns were drilled at two locations between 80m existing lines to provide short range information on continuity.</li> <li>The drill hole spacing is considered sufficient to establish both geological and grade continuity appropriate for the Mineral Resource procedure and classifications applied.</li> <li>All samples were taken at even 0.5m intervals and no compositing has been applied.</li> </ul>
Orientation of data in relation to geological	Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.	Drill holes are drilled vertical, which is approximately perpendicular to the orientation of the flat-lying mineralisation.



Criteria	JORC Code explanation	Commentary
structure	If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material.	No orientation based sampling bias has been identified in the data.
Sample security	The measures taken to ensure sample security.	Chain of custody is managed by BAJV. Samples are stored on site prior to being trucked to Nagrom in Perth by BAJV personnel. BAJV employees have no further involvement in the preparation or analysis of the samples once delivered to Nagrom.
Audits or reviews	The results of any audits or reviews of sampling techniques and data.	The BAJV Exploration Manager frequently visited site during drilling operations. On each occasion sample collection and geological logging was found to be in accordance with the Company's internal guidelines.

**Section 2 Reporting of Exploration Results** 

	Section 2 Reporting of Exploration Results			
Criteria	JORC Code explanation	Commentary		
Mineral tenement and land tenure status	<ul> <li>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.</li> <li>The security of the tenure held at the time of reporting along with any known impediments to obtaining a license to operate in the area.</li> </ul>	<ul> <li>The deposit is located within exploration licences E70/3159, E70/3366, E70/4021, E70/3731, and E70/3900. The tenements are managed by the BAJV, a joint venture between Yankuang Pty Ltd (70%) and BRL (30%). The deposit lies entirely on a small number of private landholdings.</li> <li>The tenements are in good standing. A mining access agreement and the granting of a mining lease will be required for mining to occur. BRL is not aware of any impediment to future grant of a mining lease</li> </ul>		
Exploration done by other parties	<ul> <li>Acknowledgment and appraisal of exploration by other parties.</li> </ul>	Bauxite was identified in the greater region by Pacminex Pty Ltd in the period 1968-1975 by drilling of several target areas.		
Geology	<ul> <li>Deposit type, geological setting and style of mineralisation.</li> </ul>	<ul> <li>The Bauxite intersected is typical of that seen in number of Darling Range deposits, representing a profile of weathering and alteration, of apparently in- situ material, separated by a thin clay or saprolite interval from the underlying ancient granite and gneiss of the Yilgarn Craton. Resultant bauxite zones occur as flat lying tabular bodies, often pod like in nature.</li> </ul>		
Drill hole information	<ul> <li>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:         <ul> <li>easting and northing of the drill hole collar</li> <li>elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar</li> <li>dip and azimuth of the hole</li> <li>down hole length and interception depth</li> </ul> </li> </ul>	Exploration results are not being reported. All drill holes including those with significant bauxite intersections appears in Figure 2 of the market announcement. All holes were drilled vertically.		
	<ul> <li>hole length</li> <li>If the exclusion of this information is justified on the basis that the information is not Material and this exclusion does not detract from the understanding of the report, the Competent Person should clearly explain why this is the case.</li> </ul>	All drill holes including those with significant bauxite intersections appears in Figure 2 of the market announcement		
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 and are usually Material and chould be stated.	Exploration drill results are not being reported.		
	<ul> <li>grades are usually Material and should be stated.</li> <li>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.</li> <li>The assumptions used for any reporting of metal</li> </ul>	<ul> <li>No aggregation carried out as all sampling at even 0.5m intervals.</li> <li>Metal equivalent values are not being reported.</li> </ul>		
l	equivalent values should be clearly stated.			



Criteria	JORC Code explanation	Commentary
between mineralisation widths and intercept lengths	<ul> <li>reporting of Exploration Results.</li> <li>If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.</li> <li>If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (e.g.'down hole length, true width not known').</li> </ul>	lying mineralisation orthogonally, and represent close to true thickness.
Diagrams	<ul> <li>Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported. These should include, but not be limited to a plan view of drill hole collar locations and appropriate sectional views.</li> </ul>	A plan showing Felicitas drilling appears in the market announcement.
Balanced Reporting	<ul> <li>Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.</li> <li>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.</li> </ul>	<ul> <li>97% of the vacuum drill holes at Felicitas were accurately surveyed to 0.05m using RTK survey methods.</li> <li>Exploration results are not being reported.</li> </ul>
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.	Diamond drill core (PQ size) was used to select 15cm whole core samples for density determination.
Further work	<ul> <li>The nature and scale of planned further work (e.g. tests for lateral extensions or depth extensions or large-scale step-out drilling).</li> <li>Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.</li> </ul>	Infill drilling is planned to improve the confidence in geological and mineralisation continuity, and to more accurately define the margins of the intersected lodes.

**Section 3 Estimation and Reporting of Mineral Resources** 

	Section 5 Estimation and Reporting of Mineral Resources				
Criteria	JORC Code explanation	Commentary			
Database integrity	<ul> <li>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.</li> <li>Data validation procedures used.</li> </ul>	<ul> <li>The database is validated by rOREdata before sending to BAJV geologists. All drill logs are validated digitally by the database geologist once assay results are returned from the laboratory.</li> <li>RPM also performed data audits in Surpac and checked collar coordinates, down hole surveys and assay data for errors. No errors were found.</li> </ul>			
Site visits	<ul> <li>Comment on any site visits undertaken by the Competent Person and the outcome of those visits.</li> <li>If no site visits have been undertaken indicate why this is the case.</li> </ul>	A site visit to Felicitas was conducted in November 2011 by Graham de la Mare who, at the time, was an employee of BAJV. Drilling and sampling procedures were viewed. A visit to Nagrom Laboratory was also undertaken during the same month.			
Geological interpretation	<ul> <li>Confidence in (or conversely, the uncertainty of) the geological interpretation of the mineral deposit.</li> <li>Nature of the data used and of any assumptions made.</li> <li>The effect, if any, of alternative interpretations on Mineral Resource estimation.</li> </ul>	<ul> <li>The confidence in the geological interpretation is considered to be good. The geological setting is laterite overlying granite-greenstone basement. The bauxite mineralisation is related to the weathering of granite or mafic rocks. The deposit is similar in style to many bauxite deposits in the Darling Range.</li> <li>Geochemistry has been used to assist identification of the rock type applied in the interpretation process.</li> <li>The deposit is tabular in geometry. Clear boundaries define the mineralisation. Extensional and infill drilling has supported and refined the model and the</li> </ul>			



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Criteria	JORC Code explanation	Commentary
	<ul> <li>The use of geology in guiding and controlling Mineral Resource estimation.</li> <li>The factors affecting continuity both of grade and geology.</li> </ul>	<ul> <li>current interpretation is considered robust.</li> <li>Outcropping of mineralisation has supported geochemistry. The mineralised domains are wireframed based on geochemistry and geological logging.</li> <li>The flat lying bauxite lodes are near surface within the laterite profile and follow the undulating topography. Lodes tend to thin out towards areas of higher terrain, and thicken across flat to gently sloping terrain. The basal extent of the lodes is determined from geochemical changes noted down hole (such as a sudden marked increase in reactive silica across 0.5m intervals), in association with a noted increase in the clay content observed through lithological logging.</li> </ul>
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 Felicitas resource area extends over a strike length of 18.5km (from 6,487,040mN to 6,505,550mN) and was modelled from surface to a depth of approximately 16m below surface.  The deposit is laterally extensive and is 4.4km in width in the south. Due to the confines of landowner properties on which drilling has been granted, the deposit is more constrained in the north. An extension in the central area attains a width of 5.3km locally.
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.	<ul> <li>Using parameters derived from modelled variograms, Ordinary Kriging (OK) was used to estimate average block grades within the bauxite domain using Surpac software, for 7 elements; available alumina, reactive silica, Al<sub>2</sub>O<sub>3</sub>, SiO<sub>2</sub>, Fe<sub>2</sub>O<sub>3</sub>, TiO<sub>2</sub> and LOI. The OK interpolation technique is suitable as it allows the measured spatial continuity to be incorporated into the estimate and results in a degree of smoothing which is appropriate for the disseminated nature of the mineralisation. Drill hole sample data was coded using mineralisation wireframes. As all samples are even 0.5m, no compositing was carried out. Maximum extrapolation distance between data points was 540m.</li> <li>The extrapolation distance from the end points was 40m, half the drill hole spacing.</li> </ul>
	<ul> <li>The availability of check estimates, previous estimates and/or mine production records and whether the Mineral Resource estimate takes appropriate account of such data.</li> <li>The assumptions made regarding recovery of byproducts.</li> <li>Estimation of deleterious elements or other non-grade variables of economic significance (eg sulphur for acid mine drainage characterisation).</li> <li>In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed.</li> </ul>	<ul> <li>No previous mining activity has taken place at Felicitas. The Felicitas Mineral Resource was first estimated by RPM in May 2012 and each successive estimate by RPM has built upon information from the earlier models.</li> <li>It is assumed that there will be no by-products recovered from the mining of bauxite.</li> <li>The non-grade elements estimated are Fe<sub>2</sub>O<sub>3</sub>, and TiO<sub>2</sub>. The deleterious elements estimated are reactive silica, whole rock SiO<sub>2</sub> and LOI.</li> <li>The parent block size was 20m NS by 20m EW by 1m vertical with sub-cells of 10m by 10m by 0.5m. The parent block size was selected on the basis of being approximately 50% of the closest drill hole spacing in the deposit. Block discretisation was set to 4 by 4 by 3. An orientated 'ellipsoid' search was used to select data and was based on parameters taken from the variography.</li> <li>Three models were created to encompass the extents of the deposit primarily due to software limitations. Three estimation passes were used in each model. The first pass used a range of 100m, with a minimum of 10 samples. For the second pass, the range was extended to 150m or 200m, with a minimum of 10 samples. The third pass used a range</li> </ul>



Criteria	JORC Code explanation	Commentary
	<ul> <li>Any assumptions behind modelling of selective mining units.</li> <li>Any assumptions about correlation between variables.</li> </ul>	of between 250m and 500m with a minimum of 2 samples. A maximum of 20 samples was used for each pass. A maximum of 3 samples per hole was used.  • A hard boundary was applied to the estimation.  • Selective mining units were not modelled. The block size used in the Mineral Resource model was based on drill sample spacing and lode orientation.  • There is a strong positive correlation between Al <sub>2</sub> O <sub>3</sub> and available alumina and also between available
	Description of how the geological interpretation was used to control the resource estimates.	alumina and LOI. Both Al <sub>2</sub> O <sub>3</sub> and available alumina show a strong negative correlation with Fe <sub>2</sub> O <sub>3</sub> . There is a strong negative correlation between LOI and Fe <sub>2</sub> O <sub>3</sub> . The remaining elements are un-correlated.  • The deposit mineralisation was constrained by wireframes constructed using down hole geochemistry and associated lithological logging. The optimum bauxite mineralisation is characterised by high available alumina and very low reactive silica (preferably with a ratio of better than 10:1). The basal extent of the bauxite was determined by a noticeable
	Discussion of basis for using or not using grade cutting or capping.	<ul> <li>increase in reactive silica with an associated decrease in available alumina across a 0.5m interval. This geochemical change generally coincided with intervals logged as 'transitional' or 'clay' material. The base of logged gravel coincided with the upper limit of the bauxite material. The wireframe was applied as a hard boundary in the estimate.</li> <li>To assist in the selection of appropriate top-cuts, log-probability plots and histograms were generated. The data from the bauxite domain typically showed normal distributions for all the elements except for</li> </ul>
	The process of validation, the checking process used, the comparison of model data to drill hole data, and use of reconciliation data if available.	reactive silica and total silica which showed a slight positive skewness. The lack of any distinct breaks in the shape of each distribution on the log probability plots and population histograms, and the very low CV values, suggest that no top-cuts were required.  • A three step process was used to validate the models. A qualitative assessment was completed by slicing sections through the block model in positions coincident with drilling. A quantitative assessment of the estimate was completed by comparing the average grades of the composite file input against
		the block model output for the mineralised domain.  A trend analysis was completed by comparing the interpolated blocks to the sample composite data within the bauxite domain. This analysis was completed for 160m northings and 4m bench heights across all lodes at each model. Validation plots showed good correlation between the composite grades and the block model grades.
Moisture	Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.	Tonnages and grades were estimated on a dry in situ basis.
Cut-off parameters	The basis of the adopted cut-off grade(s) or quality parameters applied.	<ul> <li>The Mineral Resource has been reported at a 25% available alumina cut-off grade.</li> <li>The purpose of BAJV activity is to explore for bauxite, where bauxite is defined under the JV's as heterogeneous material composed primarily of one or more aluminium hydroxide minerals and having more than 25% available alumina. BAJV/BRL believes that the selected cut off at Felicitas (25% available alumina) results in a product that is viable for alumina refining.</li> </ul>
Mining factors or	Assumptions made regarding possible mining methods,	RPM has assumed that the deposits could potentially



Criteria	JORC Code explanation	Commentary
assumptions	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.	be mined using medium to large scale open pit techniques. The minimal amount of overburden and shallow nature of the deposits could allow mining to be carried out with surface mining equipment, but this has not been verified with an economic study.
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 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.	No assumptions have been made regarding metallurgy other than the material could be refined using the industry recognised Bayer Processing method.
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 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.	According to BAJV/BRL, the Felicitas Project is not subject to any environmental liabilities.
Bulk density	<ul> <li>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.</li> <li>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</li> <li>Discuss assumptions for bulk density estimates used in the evaluation process of the different materials.</li> </ul>	<ul> <li>Bulk density has been measured from 89 core samples taken across the deposit. A value of 2.17t/m³ was assigned to bauxite and waste material. Samples were weighed using the water immersion technique.</li> <li>The 89 measurements have been recorded from 16 diamond drill holes at the Felicitas deposit. The samples have returned specific gravity values between 1.55t/m³ and 2.85t/m³ with an average bulk density figure of 2.32t/m³. The first quartile value of 2.17t/m³ has been applied to the block model. This is considered a conservative assignment of bulk density to allow for void spaces present in the material.</li> </ul>
Classification	<ul> <li>The basis for the classification of the Mineral Resources into varying confidence categories.</li> <li>Whether appropriate account has been taken of all relevant factors (ie 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).</li> </ul>	<ul> <li>Mineral Resources were classified in accordance with the Australasian Code for the Reporting of Exploration Results, Mineral Resources and Ore Reserves (JORC, 2012). The Mineral Resource was classified as Measured, Indicated, and Inferred Mineral Resource on the basis of data quality, sample spacing, and lode continuity.</li> <li>The Measured portion of the resource was defined where the drill spacing was at a regular 80m or 40m spacing and where the continuity of both grade and thickness of the bauxite was robust across each section. These areas occurred on the flat to slightly inclined areas on the more continuous lodes. The Indicated portion of the resource was defined where the drill spacing was drilled on an 80m by 80m pattern, continuity and thickness of mineralisation was good, and the topography was generally flat or slightly inclined. Some areas drilled at 40m intervals where grades or intersection widths were variable</li> </ul>



Criteria	IORC Code explanation	Commentary
Criteria	JORC Code explanation	between adjacent drill holes were also classified as Indicated Mineral Resource. The Inferred portion included the remainder of the deposit defined by an 80m by 80m or greater drill spacing, the mineralised continuity was less continuous and the topography more undulating. Much of the peripheral areas were classified as Inferred due to the lack of 'closing off' information.  The input data is comprehensive in its coverage of the mineralisation and does not favour or misrepresent in-situ mineralisation. The definition of mineralised zones is based on high level geological understanding producing a robust model of continuous mineralised lodes. Validation of the block model shows good correlation of the input data to the estimated grades.  The input data is considered reliable as BAJV have
	Whether the result appropriately reflects the Competent Person's view of the deposit.	<ul> <li>comprehensive QAQC procedures in place.</li> <li>The Mineral Resource estimate appropriately reflects the view of the Competent Person.</li> </ul>
Audits or reviews	The results of any audits or reviews of Mineral Resource estimates.	<ul> <li>Internal audits have been completed by RPM which verified the technical inputs, methodology, parameters and results of the estimate.</li> </ul>
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	The Felicitas Mineral Resource estimate has been estimated with a high degree of confidence. The lode geometry and continuity has been robustly interpreted to reflect the applied level of Measured and Indicated Mineral Resource. The data quality is good and the drill holes have detailed logs produced by qualified geologists. A recognised laboratory has been used for all analyses.
	<ul> <li>estimate.</li> <li>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.</li> <li>These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.</li> </ul>	<ul> <li>The Mineral Resource statement relates to global estimates of tonnes and grade.</li> <li>No mining has occurred at the deposit.</li> </ul>