# **BAUXITE** RESOURCES LIMITED



# NEW BAUXITE RESOURCE AT ATHENA PROJECT, EASTERN DARLING RANGE BRL & PARTNER RESOURCE NOW 380 MILLION TONNES

# **Highlights:**

- Maiden Inferred Resource Estimate
  - 22.7Mt @ 42.3% Al<sub>2</sub>O<sub>3 (total)</sub>, 33.3% Al<sub>2</sub>O<sub>3 (available)</sub>, 2.7% SiO<sub>2 (reactive)</sub>
- Bauxite within the resource up to 13m in thickness with 0.5 1.0m overburden
  High available alumina to reactive silica ratio, considered desirable for alumina refining and prospective for DSO export
- Close to existing bauxite State Agreement areas
- Close to existing rail infrastructure which connects directly to bulk ports
- Resource located on private landholding (farms)
- Bauxite resources held by Bauxite Resources Limited ("BRL") and its joint venture partner's totals 379.5Mt<sup>(1)</sup>

**Bauxite Resources Limited (ASX:BAU)("BRL" or the "Company")** is pleased to announce that a maiden resource estimate has been completed on the Company's new Athena project, eastern Darling Range, Western Australia (Figure 1).

The resource is located on private landholdings, approximately 120km south east of Perth.

Athena is contained within the Company's joint venture with HD Mining & Investments Pty Ltd, (HDM) the wholly owned subsidiary of Shandong Bureau No.1 Institute for Prospecting of Geology & Minerals (Shandong). The resources now under the HDM JV currently stands at 74.3Mt. Under the terms of the HDM joint venture farm in HD Mining funds 100% of all exploration and feasibility studies and can earn up to 60% of bauxite rights upon completion of certain milestones including completion of a BFS leading to a decision to mine.

### Table 1: Total Athena Deposit Resource Classification (All grades are unbeneficiated)

Classification	Tonnes	Al₂O₃ (available @148C)	SiO₂ (reactive @ 148C)	Al₂O₃ (total)	SiO₂ (total)	Fe <sub>2</sub> O <sub>3</sub>	TiO <sub>2</sub>	LOI
	Mt	%	%	%	%	%	%	%
Total	22.7	33.3	2.7	42.3	17.3	17.4	2.3	19.3

\* Note – Numbers rounded to the first significant figure.

The Athena bauxite resource:

- Is situated on a small number of private landholdings on exploration licences E70/3180 and E70/3890
- Displays bauxite thickness up to 13m (average 3m)
- Displays very good alumina grades

Peter Canterbury, BRL CEO commented on the resource "This is a fantastic result for BRL and HD Mining, following on from the recently announced Dionysus resource (ASX announcement 24/03/14). We are particularly encouraged by the higher grades we are seeing. Athena is located immediately to the east of BHP Billiton's Western Australia's State Agreement which supplies the Worsley Alumina Refinery, so we are exploring in a proven bauxite region."

"The HDM JV is now looking to access additional highly prospective properties surrounding the existing resource and as such we believe there is potential to significantly expand this resource through drilling on these additional properties in the exploration licence area. Combined with the Ceres Resource we now have the beginning of a significant resource base close to existing bauxite mining activities and also relatively close to existing rail infrastructure."

#### DATE: 3 April 2014

ASX Code: BAU

### BAUXITE RESOURCES LTD ABN: 72 119 699 982

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#### **Resource Details**

Drilling was completed on nominal 320m x 160m, 320m x 320m or 160m x 160m spaced grid patterns. The Athena resource consists of 3 deposits, located on private landholdings, each approximately 10km apart. The Athena1 deposit is comprised of six mineralised lodes which have been interpreted across a strike length of 4km. The most extensive mineralised lode is approximately 1.2km wide. The Athena2 deposit is comprised of three mineralised lodes, with each lode a width of approximately 500m. The Athena3 deposit is comprised of three mineralised lodes across a strike length of 2.4km, the largest being 600m in width. The geological setting is laterite over a predominantly granitic basement. Mineralisation comprises flat lying pods formed by the weathering of the basement rocks. The deposit is similar in style to many other bauxite deposits in the Darling Range. The resource comprises a bauxite horizon up to 13m thickness (average 3m) that is typically covered by 0.5 to 1m of loose overburden. The current resource estimate, completed by RungePincockMinarco (RPM), was based on drilling from 215 vacuum holes completed for 1,347m (Figure 2), of which 108 holes for 347m was within the resource wireframe. All holes were drilled vertically, with intersected thicknesses considered as true thickness, given the relatively flat lying nature of mineralisation. The available alumina and reactive silica quoted are based on low temperature (148°) caustic digestion (BOMB) and analysis by ICP-OES using  $1.0 \pm 0.04$ g samples. Total alumina and total silica are based on Fourier Transform Infra Red (FTIR) analysis, with approximately 10% of samples validated by X Ray Fluorescence Spectrometry (XRF).

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.

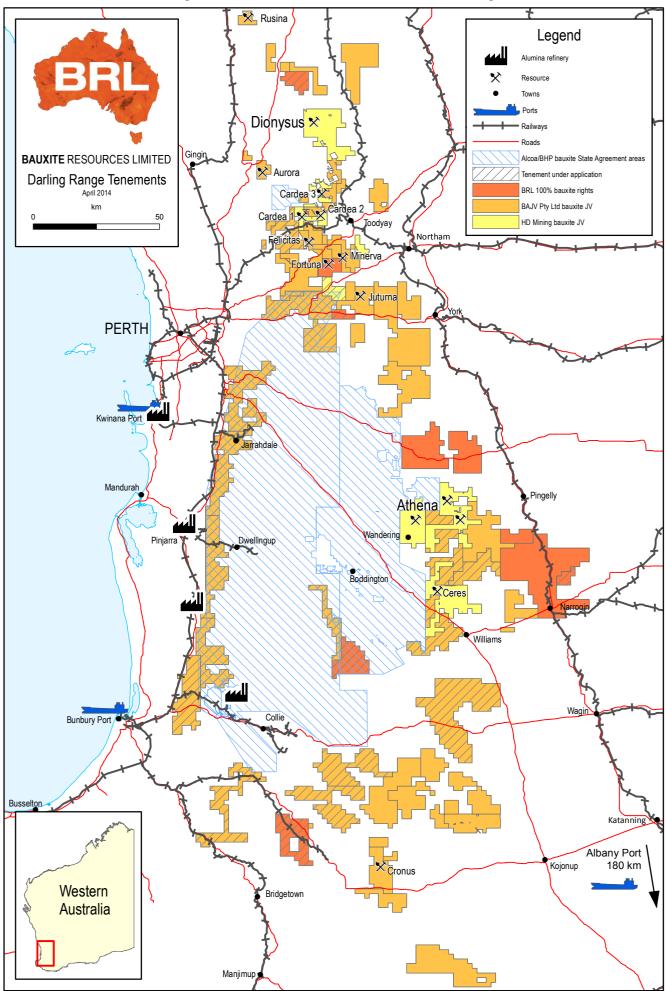
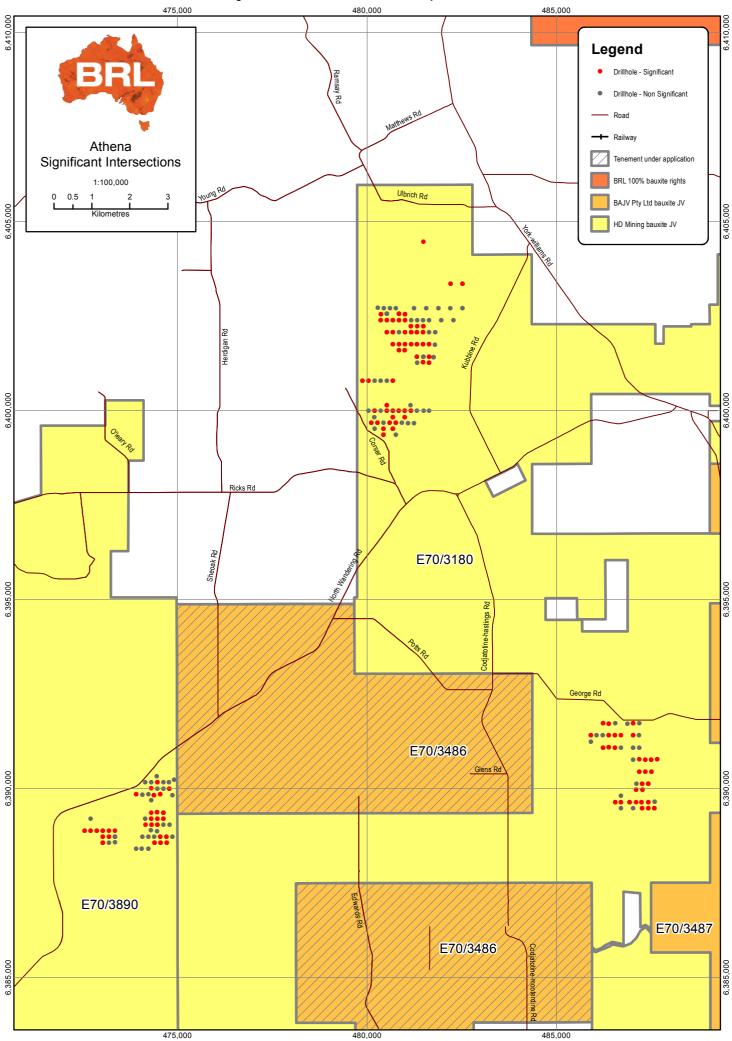


Figure 1: Bauxite Resources Ltd Tenement Holding

Figure 2: Athena Drill Hole Location Map





#### COMPETENT PERSON STATEMENT

The information in this report that relates to the **Athena** Mineral Resource 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**

<sup>(1)</sup> 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 declaring exploration results or JORC resources referred to 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.

#### For further company details please visit www.bauxiteresources.com.au or contact:

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# JORC list of reporting criteria for the Athena Bauxite Resource

# Section 1 Sampling Techniques and Data

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>The various mineralised lodes at the Athena deposits were sampled using Vacuum (VAC) drilling on a nominal 320m by 320m grid with some areas infill drilled to 320m by 160m or 160m by 160m. A total of 108 holes were included in the resource for a total of 347m within the resource wireframes. Holes were drilled vertical to optimally intersect the mineralised zones.</li> <li>The majority of drill hole collars in the supplied database have been accurately located with coordinates in MGA94 grid system. Down hole surveys have not been taken as drill holes are all less than 21.5m in depth and drilled vertically through the predominantly flat lying laterite. A total of 30 drill holes have nominal co-ordinates, nine of which occur within the interpreted mineralised lodes. The collars for these holes were adjusted to match the topographic surface.</li> <li>Vacuum samples were collected at 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	<ul> <li>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).</li> </ul>	<ul> <li>All drilling was undertaken using a tractor mounted vacuum drill rig utilising a 45mm drill bit.</li> </ul>
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>No diamond core was drilled.</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> <li>For all sample types, the nature, quality and appropriateness of the sample preparation technique.</li> </ul>	<ul> <li>No diamond core was drilled.</li> <li>All 0.5m VAC samples are 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> <li>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</li> </ul>



Criteria	JORC Code explanation	Commentary
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	• Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.	<ul> <li>pulp. These pulps were split into 100g samples for retention and analysis.</li> <li>Field QC procedures involved the use of certified reference materials (1 in 40), and field duplicates (1 in 20 for samples &gt;2kg in weight). The field duplicates have accurately reflected the original assay Recognised laboratories have been used for analysis of samples.</li> </ul>
	• 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.	<ul> <li>The standard sampling procedure used by BRL 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 remainde dropped on the ground. Field duplicates are collected from these split samples at a rate of 1:20</li> <li>Sample sizes are considered appropriate to correctly represent the bulk tonnage mineralisation based on</li> </ul>
	• Whether sample sizes are appropriate to the grain size of the material being sampled.	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.	<ul> <li>Samples were analysed at Nagrom Laboratory in Perth by Fourier-Transform Infrared (FTIR). 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. FTIR was used 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, with 10% of samples returning greater than 23% available alumina validated by X-Ray Fluorescence Spectroscopy (XRF)</li> </ul>
	<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>	<ul> <li>No geophysical tools were used to determine an element concentrations used in this resource estimate.</li> <li>Laboratory QAQC includes the use of international 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 result show the need for careful calibration when using this analytical technique. The QAQC results confirm the suitability of the drilling data for use in the resource estimation.</li> </ul>
Verification of sampling and assaying	The verification of significant intersections by either independent or alternative company personnel.	<ul> <li>Significant drill hole intersections were reported by BRL to the ASX on 16 January 2014 (Significant Bauxite Mineralisation Identified In Two Project Areas in the Darling Range, ASX Release, 16 January 2014). The BRL logging process involves placing drill samples for each 0.5m interval into chip trays which are then photographed to provide a permanent record of the down hole lithology. Mr. Mark Menzies, Exploration Manager for BRL, verified the significant intersections by comparing the returned assay results to the photographs of the chip trays.</li> <li>The original assay results were provided to RPM and these were cross checked with results in the supplied Access database.</li> </ul>
	<ul> <li>The use of twinned holes.</li> <li>Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.</li> </ul>	<ul> <li>No twin holes were drilled.</li> <li>BRL geologists logged all drill samples at the rig, with a minimum logging interval of 0.5m. Regular chip- tray samples were collected as permanent physica records for audit and validation purposes, and al holes photographed for future reference and</li> </ul>



Criteria	JORC Code explanation	Commentary
	• Discuss any adjustment to assay data.	<ul> <li>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. Logging is described using the BRL Bauxite Logging Codes preloaded into the data logger.</li> <li>Assay values that were below detection limit were adjusted to equal half of the detection limit value. Intervals with no samples were left blank in the database.</li> </ul>
Location of data points	<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>Specification of the grid system used.</li> <li>Quality and adequacy of topographic control.</li> </ul>	<ul> <li>All but nine of the drill holes used in the Mineral Resource estimate have been accurately surveyed in MGA grid co-ordinates. Down hole surveys have not been taken as drill holes are all less than 21.5m 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> <li>Topographic surface based on Landgate topography series containing 5m contour data. This was supplemented by using RTK surveyed points and drill hole collars recorded by BRL.</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 320m by 320m with infill drilling to 320m by 160m or 160m by 160m.</li> <li>The mineralised domains have demonstrated sufficient continuity in both geological and grade continuity to support the definition of Inferred Mineral Resource, and the classifications applied under the 2012 JORC Code.</li> <li>All samples were taken at even 0.5m intervals so no compositing was required.</li> </ul>
Orientation of data in relation to geological structure	<ul> <li>Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.</li> <li>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.</li> </ul>	<ul> <li>Drill holes are drilled vertical, which is approximately perpendicular to the orientation of the flat-lying mineralisation.</li> <li>No orientation based sampling bias has been identified in the data.</li> </ul>
Sample security	• The measures taken to ensure sample security.	<ul> <li>Chain of custody is managed by BRL. Samples are stored on site prior to being trucked to Nagrom in Perth by courier. BRL employees have no further involvement in the preparation or analysis of the samples.</li> </ul>
Audits or reviews	• The results of any audits or reviews of sampling techniques and data.	• A desktop review of sampling techniques was carried out by RPM. From the reports provided, the sampling appears to be conducted to industry standards.

# 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 drilling was completed entirely within two exploration tenements, E70/3180 and E70/3890. The area is contained within the Company's joint venture with HD Mining &amp; Investments Pty Ltd, (HDM) the wholly owned subsidiary of Shandong Bureau No.1 Institute for Prospecting of Geology &amp; Minerals (Shandong). Under the BRL-HD Mining Joint Venture arrangements, HDM is currently working towards obtaining 40% interest in the bauxite rights of several tenements wholly owned by BRL. HDM are fully funding exploration activities and their interest will be triggered if HDM enters into a binding commitment to undertake a feasibility study on the tenements. BRL maintains 100% interest in other minerals.</li> <li>The tenements are in good standing with no known</li> </ul>



Criteria	JORC Code explanation	Commentary
Exploration done by other parties	<ul> <li>Acknowledgment and appraisal of exploration by other parties.</li> </ul>	<ul> <li>impediment to future grant of a mining lease</li> <li>Bauxite was identified in the greater region by Pacminex Pty Ltd in the period 1968-1975 by drilling of several target areas.</li> </ul>
Geology	• Deposit type, geological setting and style of mineralisation.	<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> <li>hole length</li> </ul> </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>	<ul> <li>Drill hole locations are shown on the map within the body of this Mineral Resource report. Significant drill hole intersections were tabulated in BRL's ASX announcement 16 January 2014 "Significant bauxite mineralisation identified in two new project areas in the Darling Range", available on the Company's website free of charge.</li> <li>In the opinion of BRL all material drill results have been adequately reported.</li> </ul>
Data aggregation methods	<ul> <li>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.</li> </ul>	<ul> <li>Exploration drill results have been previously reported by BRL.</li> </ul>
	<ul> <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> </ul>	<ul> <li>No significant internal high grades intersected.</li> </ul>
	• The assumptions used for any reporting of metal equivalent values should be clearly stated.	Metal equivalent values are not being reported.
Relationship between mineralisation widths and intercept lengths	<ul> <li>These relationships are particularly important in the 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>	All drill holes are vertical and intersect the tabular, flat 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 Athena drilling is included within this Mineral Resource report.
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>All significant exploration results have been reported in BRL's ASX announcement 16 January 2014 "Significant bauxite mineralisation identified in two new project areas in the Darling Range", available on the Company's website free of charge.</li> </ul>
Other substantive exploration data	<ul> <li>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</li> </ul>	• No other exploration data other than vacuum drill samples have been collected at Athena.



Criteria	JORC Code explanation	Commentary
	density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.	
Further work	• The nature and scale of planned further work (e.g. tests for lateral extensions or depth extensions or large- scale step-out drilling).	<ul> <li>Drilling completed to date indicates the presence of bauxite mineralisation only. Further drilling is required to verify any continuity of intersected bauxite.</li> </ul>
	• Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.	

# Section 3 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 BRL 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>	<ul> <li>A site visit to Athena has not been conducted by RPM.</li> <li>Mr. de la Mare visited the Felicitas deposit in November 2011 whilst employed by BAJV. The Felicitas deposit is similar in nature to the Athena deposits and is located approximately 100km north of the Athena deposits. The same vacuum drill rig as used to drill the Athena deposits was in operation at the time of the site visit, and drill hole logging and sampling was viewed.</li> </ul>
Geological interpretation	• Confidence in (or conversely, the uncertainty of) the geological interpretation of the mineral deposit.	<ul> <li>The confidence in the geological interpretation is considered to be good. The geological setting is laterite overlying granitic 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> </ul>
	<ul> <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>Geochemistry has been used to assist identification of the rock type applied in the interpretation process.</li> <li>The deposit is tabular in geometry, however is often pod like in nature. Clear boundaries define the mineralisation.</li> </ul>
	• The use of geology in guiding and controlling Mineral Resource estimation.	<ul> <li>Outcropping of mineralisation has supported geochemistry. The mineralised domains are wireframed based on geochemistry and geological logging.</li> </ul>
	• The factors affecting continuity both of grade and geology.	<ul> <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.	<ul> <li>The Athena1 deposit is comprised of six mineralised lodes which have been interpreted across a strike length of 4km extending from 6,399,430mN to 6,403,500mN. The most extensive mineralised lode at the deposit is approximately 1.2km wide. The Athena2 deposit is comprised of three mineralised lodes which have been interpreted across a strike</li> </ul>



Criteria	JORC Code explanation	Commentary
Criteria	<ul> <li>JORC Code explanation</li> <li>The nature and appropriateness of the estimation technique(s) applied and key assumptions, including treatment of extreme grade values, domaining, interpolation from data points. If a computer assisted estimation method was chosen include a description of computer software and parameters used.</li> <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 by-</li> </ul>	<ul> <li>Commentary</li> <li>length of 1.8km extending from 6,388,480mN to 6,390,240mN. The three lodes each cover a width of approximately 500m. The Athena3 deposit is comprised of three mineralised lodes which have been interpreted across a strike length of 2.4km extending from 6,389,400mN to 6,391,780mN. The main lode is approximately 600m wide.</li> <li>Inverse Distance Squared (ID<sup>2</sup>) interpolation with an oriented 'ellipsoid' search was used for the estimate. Surpac software was used for the estimations.</li> <li>Three dimensional mineralised wireframes were used to domain the data. As all samples were taken at even 0.5m intervals, no compositing was carried out.</li> <li>No top-cuts were applied to the data as no extreme grades were noted.</li> <li>The maximum distance of extrapolation from data points was 80m.</li> <li>A flat 'ellipsoid' search was used to select data and was based on the observed lode geometry. Three passes were used in the estimation at each deposit. The first pass used a range of between 180m and 250m with a minimum of 10 samples. For the second pass, the range was extended to between 250m and 400m with a minimum of 32 samples was used for all 3 passes. Greater than 98% of the blocks were filled in the first two passes for each model.</li> <li>The current RPM estimate represents a 'Maiden' Mineral Resource estimate for the Athena prospect. No mining has occurred in the area.</li> <li>It is assumed that there will be no by-products recovered from the mining of bauxite.</li> </ul>
	<ul> <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>silica, whole rock SiO<sub>2</sub> and LOI.</li> <li>The parent block dimensions used at Athena1 and Athena3 were 80m NS by 40m EW by 1m vertical with sub-cells of 40m by 20m by 0.5m. The parent block size of 40m NS by 40m EW by 1m vertical with sub-cells of 20m by 20m by 0.5m at Athena2.The parent block size was selected on the basis of being approximately 50% of the average drill hole spacing.</li> </ul>
	• Any assumptions behind modelling of selective mining units.	<ul> <li>Selective mining units were not modelled. The block size used in the resource model was based on drill sample spacing and lode orientation.</li> <li>There is a strong positive correlation between Al<sub>2</sub>O<sub>3</sub> and available alumina and also between available alumina and LOI.</li> </ul>
	<ul> <li>Any assumptions about correlation between variables.</li> <li>Description of how the geological interpretation was used to control the resource estimates.</li> </ul>	• 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 increase in reactive silica with 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



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	<ul> <li>Discussion of basis for using or not using grade cutting or capping.</li> <li>The process of validation, the checking process used, the comparison of model data to drill hole data, and use of reconciliation data if available.</li> </ul>	<ul> <li>logged gravel coincided with the upper limit of the bauxite material. The wireframes were applied as hard boundaries 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 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 are required.</li> <li>To validate the model, 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 sample file input against the block model output for all the resource objects. A trend analysis was completed for northings and elevations across the deposit. Validation plots showed good correlation between the sample grades and the block model grades.</li> </ul>
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>BRL is operating in its own right and under two Joint Ventures, with Yankuang (BAJV) and HD Mining (HD Mining JV) respectively. The purpose of BRL 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. BRL believes that the selected cut off at Athena (25% available alumina) results in a product that is viable for alumina refining. RPM agrees with BRL's assumptions.</li> </ul>
Mining factors or assumptions	<ul> <li>Assumptions made regarding possible mining methods, minimum mining dimensions and internal (or, if applicable, external) mining dilution. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential mining methods, but the assumptions made regarding mining methods and parameters when estimating Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the mining assumptions made.</li> </ul>	<ul> <li>RPM has assumed that the deposits could potentially be mined using medium 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.</li> </ul>
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.	Noassumptions have been made regarding metallurgy other than the material could be refined using the industry recognised Bayer Processing method.
Environmental factors or	• Assumptions made regarding possible waste and process residue disposal options. It is always necessary	The Athena Project is not subject to any environmental liabilities.



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assumptions	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.	
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 is assumed. A value of 2.17t/m<sup>3</sup> was assigned to bauxite and waste material. This was based on 89 reported measurements on diamond core samples analysed from the BAJV drill program on the Felicitas deposit. 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/m<sup>3</sup> and 2.85t/m<sup>3</sup> with an average bulk density figure of 2.32t/m<sup>3</sup>. The first quartile value of 2.17t/m<sup>3</sup> 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> <li>Whether the result appropriately reflects the Competent Person's view of the deposit.</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 resource was classified as Inferred Mineral Resource on the basis of sample spacing, and lode continuity. The undulating topography and wide drill spacing has required the interpretation of intermediate inferred sections to maintain the bauxite lodes below the topographic surface. The input data is considered reliable as BRL have comprehensive QAQC procedures in place.</li> <li>The Mineral Resource estimate appropriately reflects the view of the Competent Person.</li> </ul>
Audits or reviews Discussion of relative accuracy/ confidence	<ul> <li>The results of any audits or reviews of Mineral Resource estimates.</li> <li>Where appropriate a statement of the relative accuracy and confidence level in the Mineral Resource estimate using an approach or procedure deemed appropriate by the Competent Person. For example, the application of statistical or geostatistical procedures to quantify the relative accuracy of the resource within stated confidence limits, or, if such an approach is not deemed appropriate, a qualitative discussion of the factors that could affect the relative accuracy and confidence of the estimate.</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> </ul>	<ul> <li>Internal audits have been completed by RPM which verified the technical inputs, methodology, parameters and results of the estimate.</li> <li>The Athena Mineral Resource estimate has been reported with a high degree of confidence. The lode geometry and continuity has been adequately interpreted to reflect the applied level of Inferred Mineral Resource. The wide drill spacing and undulating topography required the interpretation of sections between drill lines in order to model the bauxite continuity beneath the topography. 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.</li> <li>The Mineral Resource statement relates to global estimates of tonnes and grade.</li> </ul>
	• These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.	• No mining has occurred at the deposit.