# **BAUXITE RESOURCES LIMITED**

ABN 72 119 699 982



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# BRL INCREASES GLOBAL BAUXITE RESOURCE TO 24.8Mt IN NORTH DARLING RANGE

# **HIGHLIGHTS**

- Global Resource increased to 24.8Mt @ 30.6% Available Alumina and 3.9% Reactive Silica.
- Maiden Inferred Resource at Juturna of 8.2Mt @ 29.9% Available Alumina and 3.9% Reactive Silica.
- Updated Inferred Resource at Vallonia of 1.5Mt @ 28.0% Available Alumina and 3.9% Reactive Silica.
- 2 further Maiden Resources (Stage 1 Cardea & Minerva) currently being modelled with stage two drilling underway.
- 2 additional new prospects (Pomona and Concordia) identified, with first pass drilling complete.
- Current resources to be reassessed for amenability to high temperature refining aimed at increasing the Available Alumina and improving Available Alumina to Reactive Silica ratios.

Perth-based bauxite explorer **Bauxite Resources Ltd (ASX: BAU) ("The Company")** is pleased to announce an update to the bauxite resource base in its North Darling Range project area. Resource modelling has been completed on recent drilling undertaken on the Juturna prospect that has produced a Maiden Inferred Resource of 8.2Mt. In addition, remodelling of the Vallonia prospect has delineated an Inferred Resource of 1.5Mt. Both areas come under the Bauxite Resource Joint Venture with Yankuang Resources Pty ltd ("Yankuang"), with Bauxite Resources owning a 30% interest in bauxite and 100% of other minerals. Resource modelling for Juturna has been conducted by Snowden Mining Industry Consultants Pty Ltd. Resource modelling for Vallonia (formerly referred to as Avon) has been carried out by Bauxite Resources and all results supersede previous resources announced by the company.

Stage 1 of both the Minerva and Cardea prospects are currently being modelled and two additional prospects, Pomona and Concordia, have been identified. First pass drilling is complete on several properties within these new prospect areas and resource modelling is planned for the second half of calendar year 2011 once all assay results have been received.

All resources announced to date have been analysed using low temperature digestion that approximates the Bayer process. In conjunction with the refinery scoping study that is currently underway, Bauxite Resources is reviewing all resources for amenability to higher temperature Bayer Process refining. This method of processing bauxite is known to increase the amount of alumina that is available and still has a relatively low technical risk as it is commonly used elsewhere in the world.



#### **Global Resource**

Table 1: Global Mineral Resource for the North Darling Range (June 2011)

JORC Classification	Dry tonnes ('000,000)	Total Al <sub>2</sub> O <sub>3</sub> (%)	Available Al <sub>2</sub> O <sub>3</sub> (%)	Reactive SiO <sub>2</sub> (%)	Bauxite Rights BAU
Indicated	7.0	43.5	33.0	3.1	30%
Inferred	17.8	40.2	29.7	4.2	30%
Total (Ind. + Inf.)	24.8	41.1	30.6	3.9	30%

Note: Mineral Resources have been classified and reported in accordance with the JORC Code 2004

The Company continues to build on the robust resource base in the North Darling Range with two Maiden Resources announced today, a further two Maiden Resources expected within 60 days and another two new resource areas identified. Drilling is ongoing within the 44 tenements granted to date in the Darling Range.

## Juturna Resource

The Juturna resource is located in the Bakers Hill region of Western Australia. Not previously reported, the resource is based on first pass drilling conducted by the company on tenement E70/3002.

Table 2: Details of the Juturna Mineral Resource (June 2011)

(	JORC Classification	Dry tonnes ('000,000)	Total Al <sub>2</sub> O <sub>3</sub> (%)	Available Al <sub>2</sub> O <sub>3</sub> (%)	Reactive SiO <sub>2</sub> (%)	BAU Bauxite Rights
	Inferred	8.2	40.2	29.9	3.9	30%

Note: 25% Available Al<sub>2</sub>O<sub>3</sub> cut off grade and dry density of 1.6 used

The majority of the Juturna resource has been defined with drilling at 80m x 80m spacing. The next step in advancing the classification of this resource will be the design and implementation of a second phase drilling program to reduce the spacing down to 40m x 40m within the mineralised zones. Several bulk samples will also be taken across the resource to assist in verification of drilling results, validity of geological domains and better definition of the geometallurgical characteristics of the ore body.

#### Vallonia Resource

The Vallonia resource is located in the Gidgegannup region of Western Australia. Previously reported as Avon Area 4, 5 & 6, this resource update is based on drilling undertaken by Bauxite Resources within the past 12 months on tenement E70/3003.

Table 3: Details of the Vallonia Mineral Resource (June 2011)

JORC Classification	Dry tonnes ('000,000)	Total Al <sub>2</sub> O <sub>3</sub> (%)	Available Al <sub>2</sub> O <sub>3</sub> (%)	Reactive SiO <sub>2</sub> (%)	BAU Bauxite Rights
Inferred	1.5	36.6	28.0	3.9	30%

Note: 25% Available  $Al_2O_3$  cut off grade and dry density of 1.6 used

Previous resources reported for Avon Area 4, 5 & 6 were based on historical drilling conducted by companies exploring the region in the 1960's and 70's. That reported resource covered a large area across several tenements that were pending at the time. Bauxite Resources has since had some of this tenure granted and has drilled several properties in the central area of E70/3003. As such this resource update supersedes all previously reported resources for this area.

# **Previously Reported Resources**

The above resources defined at Juturna and Vallonia are in addition to the previously reported resources at Aurora and Rusina.



Table 4: Details of the Aurora and Rusina Mineral Resources (April 2011)

Resource	JORC Classification	Dry tonnes ('000,000)	Total Al <sub>2</sub> O <sub>3</sub> (%)	Available Al <sub>2</sub> O <sub>3</sub> (%)	Reactive SiO <sub>2</sub> (%)	BAU Bauxite Rights
Aurora	Indicated	7.0	43.5	33.0	3.1	30%
Aurora	Inferred	4.4	41.3	30.2	4.0	30%
Rusina	Inferred	3.7	40.3	29.1	5.3	30%
Combined	Total (Ind. + Inf.)	15.1	42.1	31.2	3.9	30%

Note: 24% Available Al<sub>2</sub>O<sub>3</sub> cut off grade and dry density of 1.6 used

Results are currently being returned for infill drilling at Aurora. This program of drilling was designed to allow further conversion of the Inferred Resource at Aurora to Indicated status. The majority of results for the second phase of drilling at Rusina have also been received. This will not only facilitate improved definition within the existing resource but also has the potential to expand the lateral extent of the mineralised zone. Remodelling of both resources will be completed once all results have been returned and are expected to be finalised in the 2011 December quarter.

# **Minerva Prospect**

Resource modelling has commenced on the first stage of drilling on the Minerva Prospect and will be completed early in the 2011 September quater. This area to the west of Toodyay shows potential and will be the focus of much of the company's ongoing exploration drilling over the next 3 to 6 months. Some significant intercepts encountered in the Minerva Stage 1 resource area are listed below in Table 5;

Table 5: Significant intercepts from vacuum drilling at Minerva Stage 1

Hole ID	Length	Total Al <sub>2</sub> O <sub>3</sub> (%)	Available Al <sub>2</sub> O <sub>3</sub> (%)	Reactive SiO <sub>2</sub> (%)	Depth From (m)
CYV146	5m	41.4	37.2	1.4	1.0
CYV188	5m	43.9	36.5	1.0	1.5
CYV187	3m	42.4	36.6	1.1	1.5
CYV166	3m	42.2	36.3	2.4	1.5
CYV092	4m	42.9	32.2	0.7	1.0
CYV116	4.5m	40.7	34.1	2.2	2.0
CYV230	3m	41.9	31.8	3.9	2.0
CYV152	2m	45.9	36.3	1.3	3.0
CYV171	3.5m	40.1	33.9	2.4	1.0
CYV115	3.5m	41.2	32.7	5.1	0.5

The available alumina values represent the amount of alumina that may be extracted through standard low temperature Bayer Process refining. Early results at the Minerva Prospect indicate there is significant potential to increase the amount of available alumina through the application of high temperature digestion in the Bayer Process. The Company is investigating if application of this technology that is aimed at either increasing the grade of available alumina or enabling the inclusion of marginal or sub-economic material in the resource.



### **Cardea Prospect**

Resource modelling on the Cardea Prospect is well underway, with Stage 1 and Stage 2 expected to be completed by the end of the 2011 September quarter. This prospect is part of a joint venture between the Company and Shandong No. 1 Bureau of Geology ("Shandong"). Under the terms of this joint venture, Shandong may earn a 60% interest in bauxite rights by expending 100% of the costs to define a geological resource and successfully complete a feasibility study.

Significant intercepts from the Cardea Stage 1 and Stage 2 resource areas are listed below in Table 6;

Table 6: Significant intercepts from vacuum drilling at Cardea Stage 1 and 2

Hole ID	Length	Total Al <sub>2</sub> O <sub>3</sub> (%)	Available Al <sub>2</sub> O <sub>3</sub> (%)	Reactive SiO₂ (%)	Depth From (m)
JDV018	3m	42.7	38.5	1.3	1.5
JDV378	4m	46.5	38.0	1.1	2.0
JDV630	4m	44.1	36.7	2.6	0.5
JBV147	4m	43.6	38.1	1.6	4.5
JBV165	3m	48.0	40.2	3.9	1.0
JBV132	3m	43.1	38.6	2.2	1.0
CTV074	2m	41.2	35.4	1.8	2.0
CTV072	3m	46.2	35.8	2.8	1.0
WRV154	3m	47.3	35.5	2.2	4.0
WRV018	3m	38.4	31.4	0.6	2.5

Modelling of Stage 3 is proposed to commence soon after, as results from recent drilling are returned. Some of the significant intercepts within the Cardea Stage 3 drill program are listed below in Table 7;

Table 7: Significant intercepts from vacuum drilling at Cardea Stage 3

Hole ID	Length	Total Al <sub>2</sub> O <sub>3</sub> (%)	Available Al <sub>2</sub> O <sub>3</sub> (%)	Reactive SiO <sub>2</sub> (%)	Depth From (m)
HSV0272	5m	47.2	41.0	1.6	1.5
HSV0264	4.5m	49.7	39.6	2.6	2.0
HSV0232	5.5m	49.4	38.0	1.8	2.0
HSV0231	5.5m	52.3	37.5	1.7	1.5
HSV0220	6m	50.3	33.1	1.2	2.0
HSV0246	4.5m	44.3	38.0	0.7	2.0
HSV0251	3m	46.0	37.6	5.4	1.0
HSV0264	4.5m	49.7	39.6	2.6	2.0
HSV0111	2m	42.2	35.1	2.7	2.0
HSV0244	3.5m	46.8	40.3	2.0	1.5

# **Pomona Prospect**

Drilling has recently been completed on the first two stages of the Pomona prospect. The drilling programs intersected thicknesses of laterite in excess of 8m in several holes. Initial XRF results have been returned for more



than 2,400m of drilling across 415 holes. The Company is currently awaiting available alumina and reactive silica results from laboratory analyses. Modelling is scheduled to commence in the December half of 2011.

# **Concordia Prospect**

A large drill program across the Concordia prospect was undertaken in early 2011. More than 5,300m of drilling was completed and although bauxitic intersections tended to be relatively shallow, the extent of lateritisation is very broad. Approximately half of the initial XRF results have been received with the remainder expected over the coming months along with laboratory analysis results for available alumina and reactive silica. Resource modelling of the Concordia prospect is anticipated to be completed late in calendar year 2011.

For further information visit www.bauxiteresources.com.au or contact:

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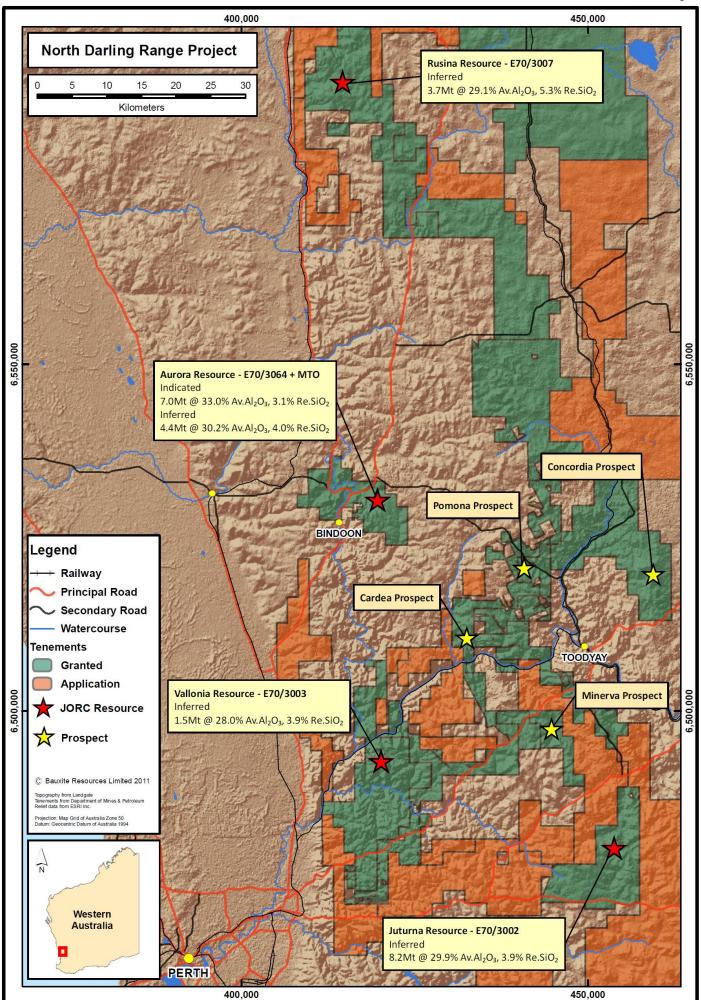
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#### **COMPETANT PERSON STATEMENT**

In accordance with the Australian Stock Exchange requirements, the technical information contained in this report has been reviewed by Mr. Peter Senini, an employee of the company. The information in the report to which this statement is attached that relates to Mineral Resources is based on information reviewed by Mr. Senini, who is a Member of the Australian Institute of Geoscientists. Mr. Senini 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 2004 Edition of the "Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves." Mr. Senini consents to the inclusion in the report of the matters based on this information in the form and context in which it appears.







# **Table 8: Sampling Techniques and Data**

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Drill sample recovery	Bauxite Resources geologists monitor sample recovery from vacuum drilling by weighing and tracking the mass of recovered sample cuttings. Poor recovery can occur due to cavities, partial blockages of the samples hose and wet samples. Recovery is generally high for the data input into the resource estimates.  For diamond-core drilling the core recovery is established by measurement of the recovered core. Triple-tube diamond drilling is used to maximise recovery and where recovery is poor through target zones of resource, the holes are abandoned and re-drilled nearby until acceptable recovery is achieved.
Logging	Bauxite Resources geologists log the vacuum samples in 0.5-metre down-hole increments. Regular chip-tray samples are collected as permanent physical records for audit and validation purposes. Diamond core samples are logged and photographed in core trays. Data is captured in digital core loggers. All logging data is captured in digital logging devices to ensure consistency of coding and minimise data entry errors.
Sub-sampling techniques and sample preparation	The entire vacuum samples for each 0.5 metres of drilling are collected into a calico bag at the drill site.  The majority of diamond core is collected whole in 0.25 metre interval into a calico bag. The whole core is broken with a brick chisel or collected by hand in unconsolidated material. Selected intervals of bauxite mineralisation are collected in longer intervals and despatched for bulk density measurements.
Quality of assay data and laboratory tests	The majority of Bauxite Resources samples were analysed at Nagrom Laboratory in Perth with some earlier samples analysed at Ultra Trace Laboratory in Perth. Bauxite Resources documentation describes the analysis of samples by a number of ISO standards methodologies (6140:1991, 9516:2003, 12677:2003, 6606:1986, ISO 6607:1985, 10213:10213, 6994:1986, 6995:1985, 6606:1986; 8557:1985). These analyses provided estimates of principal bauxite components of alumina, silica, iron, titania, and loss on ignition, and a suite of trace elements. Results reported by Bauxite Resources as available alumina and reactive silica represent partial extractions.
	Bauxite Resources documentation describes the in-laboratory quality control methods which include the use of four matrix match standards, and determination of precision and accuracy according to ISO standards. The company also include a high-grade and a low-grade, in-house (uncertified), standard as blind-standards in the field sample stream at a 1:200 ratio. Bauxite Resources also collect duplicate samples and include blank samples in the field sample stream.
Location of data points	Drillhole collar surveys are based on WA's Department of Land and Administration survey marks for control and using differential GPS equipment to locate the drill collars within an precision of ± 0.05 metres.  Topographic data used for the Mineral Resource areas is a combination of GEODATA TOPO 250K Series 3 and Landgate Medium-scale Topographic Database data.  Bauxite Resources did not survey the hole paths of any of the drilling because all holes are short and any deviation errors are not significant relative the average drill-hole spacing used to defined the Mineral Resources.
Data spacing and distribution	Bauxite Resources has drilled a variety of data collar spacings ranging from wide spaced first pass drilling on a 160-metre square grid, to broader coverage on an 80-metre square grid. All vertical sampling is on a 0.5-metre interval, either raw or composited.
Orientation of data in relation to geological structure	All data points for the resource estimate are vertical strings originating at the topography.



# **Table 9: Estimation and Reporting of Mineral Resources**

Database integrity	The Bauxite Resources drilling data is hosted by an external provider (rOREdata Pty Ltd) in the acQuire
	database system, which is designed to capture, store and verify geological drilling data. Data collected in field
	loggers is transferred to the database via text files as is data from the laboratory. rOREdata provide reports to
	the company regarding basic integrity validation of the data such as overlapping records, missing assays and
	duplicate drillhole identifiers.
Geological	For both Juturna and Vallonia, geological wireframes were constructed to represent the major zones within
interpretation	the laterite profile. The overlying gravel zone and underlying clay zone are assumed to be outside of the main
	mineralised envelope, which is defined by the hardcap, bauxite and transitional zones. Each zone has been
	estimated individually in the Juturna model however due to the similarity of populations, the hardcap and
	bauxite zones were estimated together at Vallonia.
Dimensions	At Juturna, mineralisation occurs in three main pods, joined loosely by some lower grade material. The two
	southern pods have a combined maximum extent in the order of 3.2 kilometres by 1.5 kilometres. The north
	pod has maximum extents in the order of 1.7 kilometres by 1.7 kilometres. The thickness of the main ore
	bearing zones in the south averages 2.5 metres and ranges from 0.3 metres to 8 metres while in the north the
	thickness averages 3.2 metres and ranges from 0.2 metres to 11.2 metres. The pods are near surface, flat lying
	and with average overburden thicknesses of 0.7 metres.
	At Vallonia, the resource was modelled as two discrete zones. The eastern zone has maximum extents in the
	order of 1 kilometre by 0.6 kilometres; the western zone has extents of 2.1 kilometres by 1.1 kilometres. The
	thickness of the main ore bearing zones averages 1.8 metres and ranges from 0.8 to 6 metres. The pods are
	near surface, flat lying and with average overburden thickness 0.6 metres.
Estimation and	Both Juturna and Vallonia were estimated using three dimensional block modelling within the interpreted
modelling techniques	mineralised zones of hardcap, bauxite and transitional. Block grades for alumina, silica, available alumina and
	reactive silica were estimated using ordinary kriging within the discrete geological zones.
	Some available alumina and reactive silica grades outside of the main ore zone were not assayed and were
	populated using a multiple linear regression from the estimated alumina and silica block grades. These values
	were then merged with assayed values to provide a complete data set for estimation purposes.
	The models were validated by visual comparison of input data and output block estimated grades, and
	comparison of input and output means. An internal peer review process confirmed correct application of
	estimation parameters in the estimation processes.
Moisture	Mineral Resource tonnages are reported as dry metric tonnes with an assumed dry density of 1.6 tonnes per
	cubic metre. Available test data indicates the dry density is in the order of 1.6 tonnes per cubic metre with wet
	density in the order of 1.7, which implies an in situ moisture content of 0.1 tonnes per cubic metre (6 to 7
	percent moisture).
Cut-off parameters	The cut-off grade applied to both Juturna and Vallonia is a nominal 25 percent available alumina threshold
NATAL SECTION AND ADMINISTRA	derived from data measurements and/or regression estimates.
Mining factors and	Bauxite Resources and Snowden have assumed that mining of the deposit will be via truck and shovel
assumptions	configuration and that there will be good visual control to establish the top and base of bauxite during mining.
NA-L-II!I	There has been no minimum mining thickness assumed.
Metallurgical	At both Aurora and Rusina, the available alumina grades exceed the stated Bauxite Resources target grade.
assumptions	Reactive silica is below the four to five dry-weight percent that is implied to have a significant negative effect
	on Bayer-process reagent consumption. The company is carrying out studies to assess the degree to which
	high-silica Mineral Resources such as at Rusina, can be positively affected by application of beneficiation
	techniques. Low-silica sources within the deposits could also be blended with higher silica resources to
D. II. 1. 11	produce acceptable process products.
Bulk density	A dry bulk density of 1.6 tonnes per cubic metre has been used in both the Juturna and Vallonia estimates.
Classification	Bauxite Resources has classified the Mineral Resource estimates primarily on the basis of collar spacing with
	adjustments for data quality where considered appropriate. The Bauxite Resources Competent Person has
	reviewed and agrees with this approach.
	The Aurora estimate has been classified as Indicated Mineral Resource where the collar spacing is 40 metres
A 19. 1 1	square or less and Inferred Mineral Resource elsewhere.
Audits and reviews	The mineral resource estimates have been peer reviewed by Snowden and by Bauxite Resources' Competent
	Person. No external fully independent audits or reviews have been completed.
Discussion of relative accuracy/ confidence.	No uncertainty studies have been carried out to establish the local confidence and accuracy of the Mineral Resource estimates.