



# AUSTRALIAN BAUXITE LIMITED

ASX: ABZ

## ASX ANNOUNCEMENT

31 May 2012

### Goulburn-Taralga Bauxite Resource up by 50% – 38 Million Tonnes

- 37.9 million tonnes of thick, gibbsite-rich bauxite resources at Taralga, southern NSW
- Pre-feasibility studies expanded for Goulburn Bauxite Project due to thick bauxite discovered in February-March 2012. This resource upgrade includes the first thick zone.
- Based on 890 drill holes into less than two-thirds of the identified bauxite target areas at Taralga only
- 53% of total identified bauxite resources is DSO grade (see Table 1 and Glossary)
- Pre Feasibility Study Metallurgical Tests confirmed that the remaining 47% of total identified bauxite resources, called PDM-DSO bauxite, contains dense, hard, magnetic emery nodules that are easily recovered by gravity screening for sale, leaving the remaining 70% light fraction as DSO grade bauxite
- The thick bauxite discovered in February-March 2012 is being explored along strike. A new record true thickness of 38 metres of continuous bauxite was intersected in hole TG707. Other thick zones were identified and drilled deeper for this resource upgrade

Emerging bauxite exploration and development company, Australian Bauxite Limited (ABx, ASX Code ABZ) has 40 bauxite tenements totalling more than 8,700 km<sup>2</sup> covering the core of the Eastern Australian Bauxite Province (see Figure 5). As announced on 30 May 2012, a discovery of extraordinarily thick bauxite at Mt Rae near Taralga, 40km north of Goulburn southern NSW (see Figures 1 & 2) in February-March 2012 has led to an expansion of the Pre Feasibility Study (PFS) for the Goulburn Bauxite Project and a resource upgrade has now also been undertaken as part of that expanded PFS.

**Table 1: Summary of Bauxite Resources at Taralga, Southern NSW**

DSO Bauxite Resources				Sieved at 0.26mm											
Resource category	Tonnes millions	Bauxite Thickness	DSO Thickness	Al <sub>2</sub> O <sub>3</sub> Avl % 143°	Rx SiO <sub>2</sub> %	Avl/Rx Ratio	Al <sub>2</sub> O <sub>3</sub> %	SiO <sub>2</sub> %	A/S Ratio	Fe <sub>2</sub> O <sub>3</sub> %	TiO <sub>2</sub> %	LOI %	Yield	Overburden	Internal Waste
Inferred	9.9	4.6 m	3.1 m	35.2	1.9	18.3	40.4	5.7	7.1	24.6	4.1	22.2	54%	0.1 m	0.2 m
Indicated	10.2	6.4 m	3.7 m	36.1	1.9	18.8	41.3	5.3	7.8	25.9	4.0	22.9	55%	0.7 m	0.4 m
<b>TOTAL</b>	<b>20.1</b>	<b>5.6 m</b>	<b>3.4 m</b>	<b>35.7</b>	<b>1.9</b>	<b>18.5</b>	<b>40.8</b>	<b>5.5</b>	<b>7.4</b>	<b>25.3</b>	<b>4.0</b>	<b>22.6</b>	<b>55%</b>	<b>0.5 m</b>	<b>0.3 m</b>
PDM-DSO Bauxite Resources				Sieved at 0.26mm											
Resource category	Tonnes millions	Bauxite Thickness	PDM-DSO Thickness	Al <sub>2</sub> O <sub>3</sub> Avl % 143°	Rx SiO <sub>2</sub> %	Avl/Rx Ratio	Al <sub>2</sub> O <sub>3</sub> %	SiO <sub>2</sub> %	A/S Ratio	Fe <sub>2</sub> O <sub>3</sub> %	TiO <sub>2</sub> %	LOI %	Yield	Overburden	Internal Waste
Inferred	7.6	4.8 m	2.5 m	22.1	1.3	16.8	37.0	6.0	6.1	38.4	3.5	13.3	72%	0.2 m	0.1 m
Indicated	10.3	6.5 m	3.1 m	22.4	1.1	19.8	37.6	3.9	9.5	40.4	3.7	13.5	71%	0.7 m	0.4 m
<b>TOTAL</b>	<b>17.8</b>	<b>5.8 m</b>	<b>2.8 m</b>	<b>22.3</b>	<b>1.2</b>	<b>18.4</b>	<b>37.3</b>	<b>4.8</b>	<b>7.7</b>	<b>39.6</b>	<b>3.6</b>	<b>13.4</b>	<b>72%</b>	<b>0.5 m</b>	<b>0.3 m</b>
Total Bauxite Resources				Sieved at 0.26mm											
Resource category	Tonnes millions	Bauxite Thickness	DSO Thickness	PDM-DSO Thickness	Rx SiO <sub>2</sub> %	Avl/Rx Ratio	Al <sub>2</sub> O <sub>3</sub> %	SiO <sub>2</sub> %	A/S Ratio	Fe <sub>2</sub> O <sub>3</sub> %	TiO <sub>2</sub> %	LOI %	Yield	Overburden	Internal Waste
Inferred	17.5	4.6 m	3.1 m	2.5 m	1.7	17.6	38.9	5.8	6.7	30.6	3.9	18.3	62%	0.2 m	0.2 m
Indicated	20.4	6.3 m	3.7 m	3.1 m	1.5	19.3	39.4	4.6	8.5	33.2	3.8	18.2	63%	0.7 m	0.4 m
<b>TOTAL</b>	<b>37.9</b>	<b>5.6 m</b>	<b>3.4 m</b>	<b>2.8 m</b>	<b>1.6</b>	<b>18.5</b>	<b>39.2</b>	<b>5.2</b>	<b>7.6</b>	<b>32.0</b>	<b>3.8</b>	<b>18.3</b>	<b>63%</b>	<b>0.4 m</b>	<b>0.3 m</b>

Note: DSO Bauxite of DSO grades is recoverable from the PDM-DSO Bauxite Resources. Metallurgical testwork indicates that approximately 80% to 85% of the PDM-DSO Bauxite is DSO grade bauxite. The remainder is dense, hard, magnetic spinel nodules easily recovered by gravity and sold at refractory grade prices.

Cut-off grades applied: Minimum 30% Al<sub>2</sub>O<sub>3</sub>, 2m thickness & 3 data points in 350m search ellipse for each 25m x 25m block. Leach conditions to measure available alumina "Al<sub>2</sub>O<sub>3</sub> Avl" & reactive silica "Rx SiO<sub>2</sub>" is 1g leached in 10ml of 90gpl NaOH at 143 degrees C for 30 mins. "Avl/Rx" ratio is (Al<sub>2</sub>O<sub>3</sub> Avl)/(Rx SiO<sub>2</sub>). Values above 10 are excellent. "A/S" ratio is Al<sub>2</sub>O<sub>3</sub>/SiO<sub>2</sub> where the SiO<sub>2</sub> includes inert silica sand in bauxite. Tonnage is for bauxite in-situ. Yield is for screening all samples at 0.26mm. The significant tonnages requiring no upgrade will have 100% yield.

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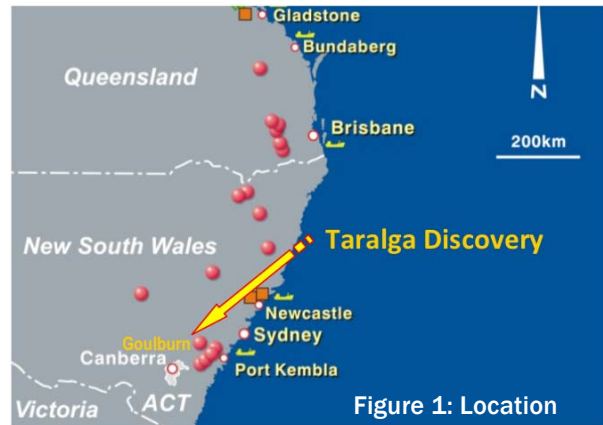
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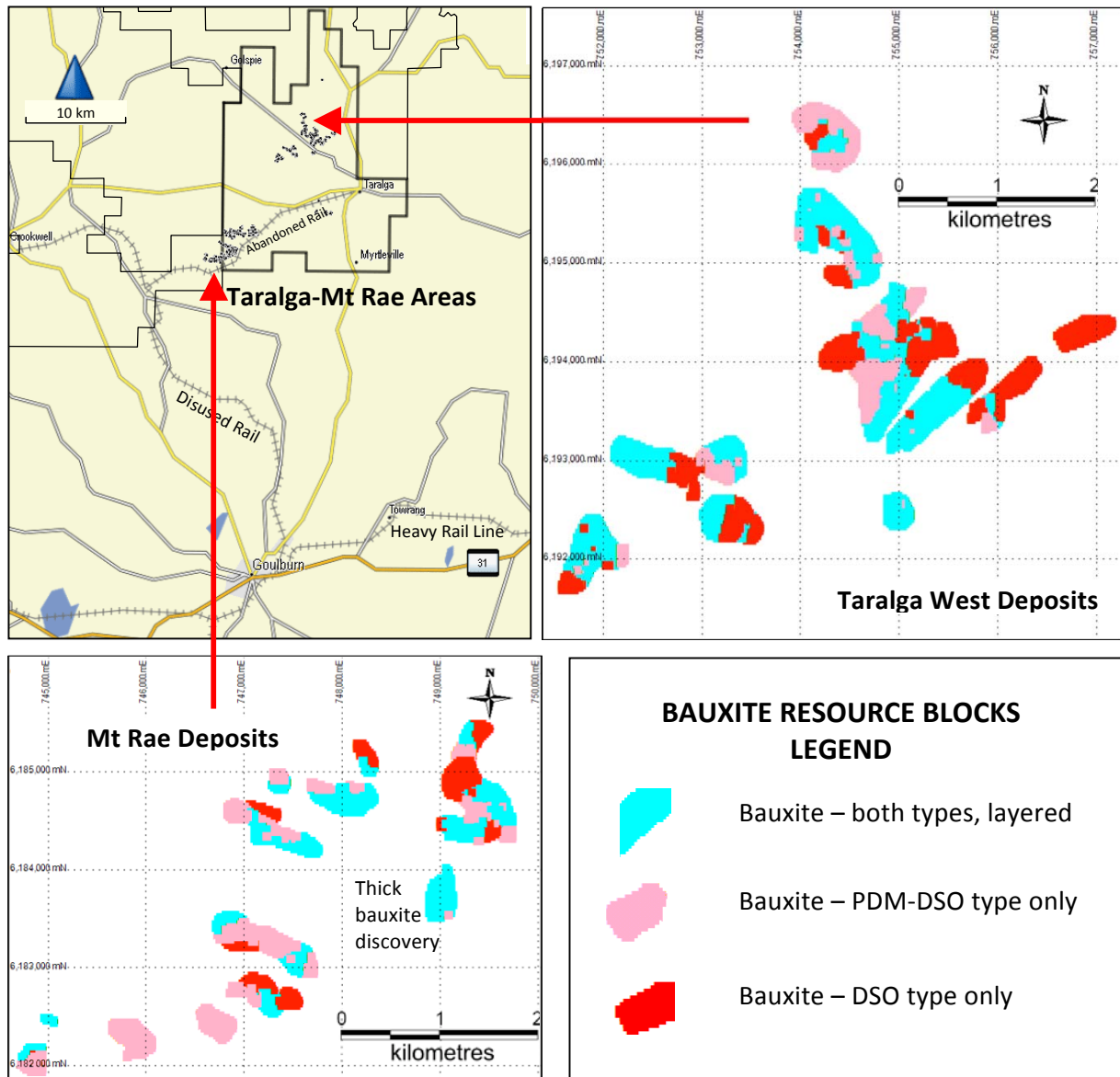
ABx and Marubeni Corporation are conducting a \$1.5 million pre feasibility study of the Goulburn Bauxite Project. This zone of thick bauxite increases the resource potential of the Taralga bauxite areas, near Goulburn NSW.

The district's deposits contain thick zones of premium grade bauxite, with good potential for more discoveries. All deposits are gibbsite-rich (trihydrate) bauxite, low in reactive silica and free of refractory mineral boehmite (monohydrate).

All horizons produce Direct Shipping or "DSO" bauxite.



**Figure 2: Location & Infrastructure with Resource Blocks Showing Distribution of Bauxite Types**  
Drillholes marked as black dots



### Resource Estimation and Deposit Geometry

Areas of thick, good quality bauxite continue to be discovered across the Taralga - Mt Rae Areas and new bauxite target areas have been identified in new tenements that have been recently granted. Over the last 12 months, bauxite resources at Taralga have increased by 50% from 25 million tonnes to the current estimate of 37.9 million tonnes (see Resource Statement page 5 and Appendix below).

The cross-section in Figure 3 below through the thick bauxite discovery zone shown in Figure 2 above demonstrates the geological setting of these remarkable deposits. Figure 4 shows a pit exposure.

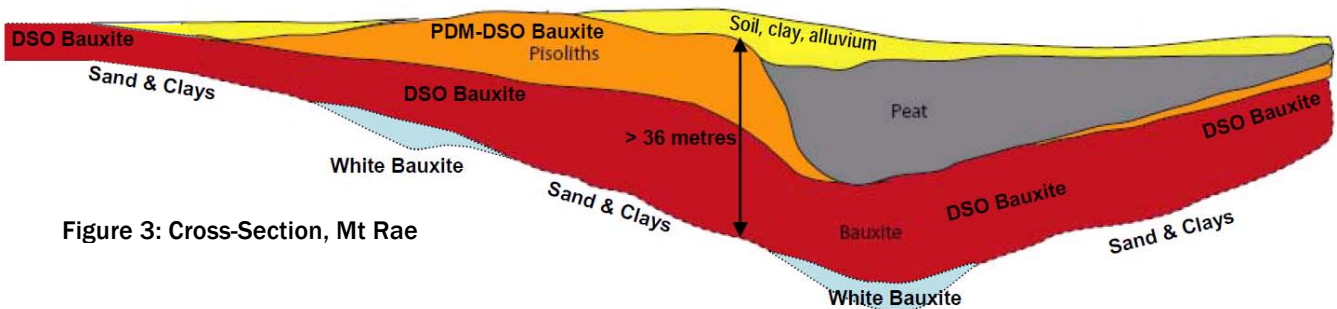
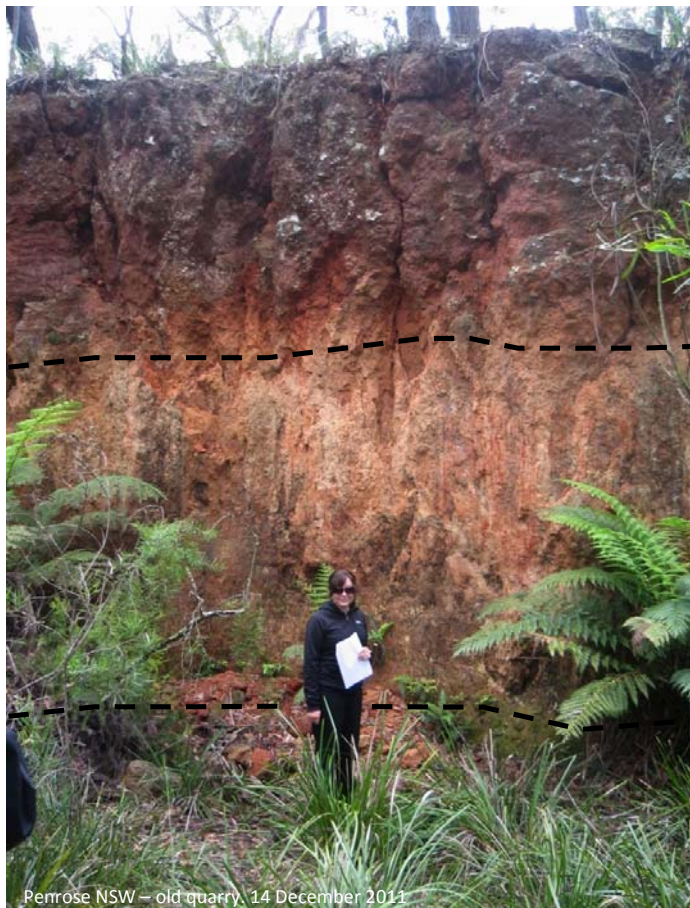


Figure 3: Cross-Section, Mt Rae

ABx discovered exceptionally thick bauxite at Mt Rae near Taralga in southern NSW in February 2012. The bottom of the bauxite has not yet been reached – the drill rig ran out of drill rods and a new, more powerful drill rig will be needed to fully reach the deep bauxite extent.

This thick zone has been carefully drilled and interpreted by ABx’s senior geologists. Potential extensions of this material have been identified and will be drilled, after intensive mapping.



Perrose NSW – old quarry, 14 December 2011

### LAYERED BAUXITES OF SOUTHERN NSW

2 to 3 m layer of “PDM-DSO Bx” or emery-bearing pisolithic bauxite.

Comprises 15% to 30% of 5 to 50mm pisoliths of “PDM” which are nodules of dense fused alumina & maghemite-hematite dust in low-density, high quality DSO bauxite.

2 to 4 m layer of DSO bauxite.

Gibbsite plus moderate levels of iron minerals, mainly hematite and limonite (little or no goethite).

Needs no processing – direct shipping bauxite (“DSO”) – see Definitions.

1 to 3m layer of white bauxite in places.

Gibbsite plus low iron (3% to 8% Fe<sub>2</sub>O<sub>3</sub>). May be refractory grade bauxite.

TERTIARY QUARTZ SAND OR CLAY BELOW

Figure 4: Typical Bauxite Layers



### Metallurgical Results Encouraging: Main Production is DSO Bauxite

Metallurgical tests on large samples have been conducted as part of the Pre Feasibility Study, with METS Engineers of Perth coordinating and summarising the testwork.

The Goulburn Bauxite Project deposits typically have an upper half that contains nodules or “pisoliths” of a black, glassy material which is an emery, comprising mainly fused alumina and trace iron oxides (see Figure 4). Well-known bauxite mineralogist, Professor Eggleton of the Australian National University coined the term “PDM” for these black pisoliths which he found in bauxites from Weipa, Northern QLD. PDM stands for “poorly diffracting material” when subjected to X-ray diffraction.

Metallurgical tests on the PDM-bearing bauxite (“PDM-DSO Bx”) from the Taralga area have been able to recover the PDM by gravity methods and the remaining bauxite is good-quality DSO bauxite, similar to the DSO bauxite that typically occurs in the lower half of the deposits (see Figure 4). This means that overall, DSO Bauxite will represent approximately 80% to 85% of total tonnes produced from the Goulburn Bauxite Project. The recovered PDM emery material can be sold at good prices for industrial uses.

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#### About Australian Bauxite Limited: ASX Code ABZ

Australian Bauxite Limited (ABx) holds the core of the newly discovered Eastern Australian Bauxite Province. Its 40 bauxite tenements in Queensland, NSW and Tasmania covering 8,700 km<sup>2</sup> were rigorously selected on 3 principles:

1. good quality bauxite;
2. proximity to infrastructure connected to export ports; and,
3. free of socio-environmental or native title land constraints.

All tenements are 100% owned and free of obligations for processing and third-party royalties. ABx has already discovered many bauxite deposits and new discoveries are still being made as knowledge and expertise grows.

The company's bauxite is high quality and can be processed into alumina at low temperature – the type that is in short-supply globally. **Global resources declared to date total 98.7 million tonnes.** At the company's first drilling prospect in Inverell, northern NSW, a resource of 38.0 million tonnes<sup>1</sup> has been reported from drilling 15% to 20% of the area prospective for bauxite and a resource of 37.9 million tonnes<sup>2</sup> of bauxite has been reported at the Taralga project in southern NSW. A 6.0 million tonnes maiden resource was declared at Guyra<sup>3</sup>. A 16.8 million tonnes<sup>4</sup> maiden resource has been declared at the Binjour Plateau in central QLD, confirming that ABx has discovered a significant bauxite deposit including some bauxite of outstandingly high quality. Australian Bauxite Limited aspires to identify large bauxite resources in the Eastern Australian Bauxite Province, which is emerging as one of the world's best bauxite provinces.

ABx has the potential to create significant bauxite developments in three states - Queensland, New South Wales and Tasmania. Its bauxite deposits are favourably located for direct shipping of bauxite to both local and export customers.

**ABx endorses best practices on agricultural land, strives to leave land and environment better than we find it. We only operate where welcomed.**



**Qualifying statement**

The information in this announcement that relate to Exploration Information are based on information compiled by Jacob Rebek and Ian Levy who are members of The Australasian Institute of Mining and Metallurgy and the Australian Institute of Geoscientists. Mr Rebek and Mr Levy are qualified geologists and are directors of Australian Bauxite Limited.

Mr Rebek and Mr Levy have sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which they are 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 Resources. Mr Rebek and Mr Levy have consented to the inclusion in this announcement of the Exploration Information in the form and context in which it appears.

The information in this announcement that relate to bauxite resource classifications is based on results and interpretations compiled by Ian Levy who is a member of The Australasian Institute of Mining and Metallurgy and the Australian Institute of Geoscientists. Mr Levy is a qualified geologist and employed as CEO of Australian Bauxite Limited.

Geostatistical block modelling was carried out by independent consultant, Scott McManus using Gemcom mining software. Mr McManus is an experienced resource modelling consultant and a member of the Australian Institute of Geoscientists.

Mr Levy 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 Resources. Mr McManus and Mr Levy have consented in writing to the inclusion in this announcement of the Exploration Information in the form and context in which it appears.

More detailed explanations regarding resource methodologies are included in the Appendix.

**JORC Compliant Resource Statements**

The following are Joint Ore Reserve Code ("JORC")-compliant Public Reports released to the ASX declaring the JORC resources referred to. These can be viewed on the ASX website and the Company will provide these reports, free of charge on request.

- <sup>1</sup> 08/05/2012 ASX Inverell JORC Resource Update, 38.0 Million Tonnes
- <sup>2</sup> 30/05/2012 ASX Goulburn-Taralga Bauxite Resource up by 50% - 38 Million Tonnes
- <sup>3</sup> 15/08/2011 ASX Maiden Guyra Resource, 6.0 Million Tonnes
- <sup>4</sup> 12/10/2011 ASX Binjour Maiden Resource, 16.8 Million Tonnes

**Glossary****Direct Shipping Bauxite or "Direct Shipping "Ore"**

All references in this report to direct shipping bauxite or direct shipping ore (DSO) refers to the company's exploration objective of defining or identifying DSO grade mineralisation.

**True Width**

The true width of the deposit is not known and will be determined by further resource definition drilling.

**Definitions for Appendix**

DSO bauxite	Bauxite that can be exported directly with minimal processing
PDM-DSO Bx	Bauxite containing nodules of emery, termed PDM as pisoliths which are recoverable by gravity and are generally saleable. The remaining 60% to 70% of material is DSO Bauxite
Averaging method	Aggregated average grades in the table are length-yield-weighted averages of each metre grades & yields.



Figure 5: ABx Project Locations



## APPENDIX

### RESOURCE ESTIMATE METHOD

**Drilling:** Reconnaissance and follow-up exploration drilling using slow, low-pressure aircore drilling was done on a semi-random pattern governed by site availability across Taralga EL 7357 and Taralga Extension EL 7681 to test several of the many bauxite targets. On 12 May 2011, a resource estimate totalling 25.3 million tonnes was announced based on 577 holes.

Exploration drilling continued in the second half of 2011 but in February-March 2012, an extraordinarily thick bauxite zone was discovered at Mt Rae. This led to a reappraisal of the bauxite potential and this reappraisal is continuing.

This resource estimation reported here is based on results from 890 holes including infill holes and some 9 holes drilled as duplicates of previous holes in all major bauxite areas to test for deeper bauxite and to test for repeatability of results.

Several deeper bauxite zones were discovered in areas that had been drilled in 2010 and 2011.

**Data Precision:** The repeatability tests from the 9 duplicated holes proved very satisfactory – results appear to have a high precision over the distances between the duplicated holes which is considered to be between 2 and 5 metres based on GPS location accuracy. All hole collars are fully-rehabilitated and are non-identifiable after a short period of time.

The next tests of data precision will involve diamond drilling and/or pit excavation and careful channel-sampling.

**Bauxite Density Determinations:** During July 2011, large-sized samples were carefully collected from the cleaned-out bottom of old quarries and from fresh small pits excavated by jack-hammer, pick and shovel. These 7 major samples plus some additional follow-up samples were sent to METS Engineers, AMDEL Laboratories and NAGROM Laboratories in Perth, Western Australia for metallurgical testwork. As part of this process, the density of in-situ bauxite was tested gravimetrically. Results for DSO bauxite were in the range of 1.8 to 1.9 tonnes per cubic metre and results for PDM-DSO bauxite were all above 2.2 tonnes per cubic metre (the range was 2.25 to 2.35).

For this estimation, DSO bauxite was estimated at a density of 1.8 tonnes per cubic metre and PDM-DSO bauxite was estimated at a density of 2.2 tonnes per cubic metre.

**Sampling and Laboratory Analysis:** Drill samples were collected at 1 metre intervals from the aircore drillholes and analysed at ALS Laboratories in Brisbane including trihydrate (THA) available alumina (“Al<sub>2</sub>O<sub>3</sub> Avl”) and reactive silica (“Rx SiO<sub>2</sub>”) measurements. Leach conditions to measure available alumina “Al<sub>2</sub>O<sub>3</sub> Avl” and reactive silica “Rx SiO<sub>2</sub>” were 1g leached in 10ml of 90gpl NaOH at 143 degrees C for 30 minutes.

**Block Modelling Estimation Method:** Estimation was done by geostatistical block modelling of bauxite intercepts, constrained within the interpreted geological boundaries using Gemcom resource estimation software and grade interpolation was done using the inverse distance squared method.

The block size is 25m x 25m and drill spacing within the bauxite zones was typically at 75 to 150 metres spacings. Data interpolation of up to 350 metres was done, based on statistical assessments of continuity. Blocks with between 3 and 9 data points within that 350 metre search ellipse were classified as being the Inferred Resources and the more heavily drilled blocks were classified as Indicated Resources.

Many zones have probably been drilled to sufficient drill-density for classification as Measured Resources but until the sample precision is confirmed by comparisons with diamond drilling and/or pit excavation and careful channel-sampling, Indicated classification will remain the highest classification.