

ASX code: ABX

### QUARTERLY REPORT AND ACTIVITY STATEMENT FOR THREE MONTHS TO 30 SEPTEMBER 2017

#### Corporate

- Current group available cash at the end of the quarter was \$2.42 million and is currently \$1.73 million after payment of product transport and port costs.
- ABx has lines of credit for working capital if required and has no current plans for capital raisings.

## Bauxite Refining Technology ALCORE

ABx has announced that it has entered into a research and development venture with technology company
Refined Ore Industries Limited. The R&D Venture is a <u>bauxite refining technology</u> to increase the value of
ABx's bauxite **tenfold**, capitalising on the clean chemistry of ABx bauxite, abundant available reagents and
processing skills available in Tasmania or in Townsville, QLD as an alternative location.

The R&D Venture is called **ALCORE** which is the next stage in ABx's development of bauxite beneficiation and refining technology. This technology was patented on 5 June 2017 and is designed to produce Aluminium Fluoride (AIF<sub>3</sub>) which is an electrolyte used to increase the electrical efficiency of aluminium smelters and is also used in lithium ion batteries. The process also produces Corethane Gas® for energy security.

ALCORE technology upgrades low-grade bauxite fractions, by using waste acids from zinc refineries and fertiliser plants. Reagents are recycled with no emissions, particulates or waste generated. The main makeup reagent is fluorosilicic acid "FSA" which is also used to fluoridate drinking water supplies.

The production plant can operate off-grid by producing its own heat and electricity as a result of coproduction of Corethane gas which is a clean and cheap gas substitute that meets the Finkel Review recommendations on emission targets. The production plant could sell surplus electricity into the national grid at peak demand periods or alternatively, Corethane gas can provide a gas fuel to a major industrial customer (eg. brick plants or aluminium smelters), thus freeing up natural gas supply when it is most needed.

An engineering firm has begun final designs and costings for the Stage 1 plant design. The study is due to be completed in early 2018. ABX will continue wide consultations before making and announcing final funding strategies to create value for ABx shareholders.

#### Sales

- ABx announced the completion of two sales during the quarter comprising:
  - 1. 30,000 tonnes of mixed grade blended cement-grade bauxite, product 04.100; and,
  - 2. 5,000 tonnes of cement grade, product 04.15.

The two sales were delivered from Bald Hill mine at Campbell Town, northern Tasmania to Bell Bay Port in early October, 3 weeks ahead of schedule. Both cargoes were shipped from Bell Bay Port on  $24^{th}$  October. Invoices have been submitted for the final tonnages sold, based on independent ship surveys.

 Fertiliser grade bauxite sales from the Bald Hill mine have been ramped up to satisfy customer demand over the summer period at modest but valuable prices to supply local industry. Invoices are yet to be submitted for these sales which are ongoing.

#### Review of Binjour project

- ABx and its Indian marketing partner, Rawmin Mining and Industries (Rawmin) have made an application
  for a Regional Jobs and Investment grant for the commencement of the Binjour Bauxite project in the Wide
  Bay Burnett region of central Queensland utilising the Bundaberg port facilities. The Binjour Bauxite project
  would involve the production of beneficiated metallurgical grade and cement grade bauxite from Binjour as
  well as early production from the granted Mining Lease at Toondoon south of Munduberra.
- Resource modelling is in progress and plans will then be developed for collecting bulk samples of 500 to 2,000 tonnes of bauxite marketing samples for the preferred customer to expedite the execution of an offtake sale-purchase agreement for the project. The Binjour Bauxite project resources are currently estimated as totalling 28 million tonnes from its granted exploration licences at Binjour and granted mining lease at Toondoon.

#### TasTech Process Technology

 ABx has completed a bulk-scale mining and processing project to confirm the effectiveness of ABx's TasTech technology at Fingal Rail project area, using freshly mined Fingal Rail ore and stockpiled Bald Hill ore.



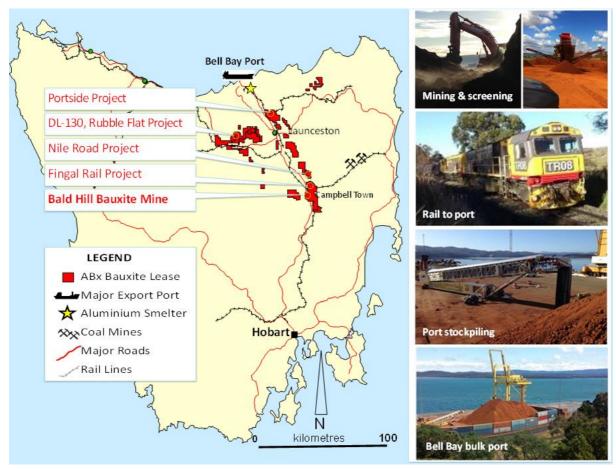


Figure 1: Locations of ABx bauxite mines, projects and transport infrastructure in Tasmania



Figure 2: Bulk loading of 35,000 tonnes of bauxite from the port stockpiles (foreground) into the ship (in the background).

The two cargoes are surrounded by old shipping containers used as windbreaks at Bell Bay export port, Tasmania



# ALCORE Bauxite Refining Technology under evaluation

ALCORE bauxite refining technology produces aluminium fluoride (AIF<sub>3</sub>). ABx has been in negotiations with potential customers about technical specifications for its AIF<sub>3</sub> product and it is considered likely that there is sufficient demand for a 50,000 tonnes per year AIF<sub>3</sub> production plant. ABx will do all marketing and is pleased to assist its customers in the bauxite-alumina-aluminium industry to become more cost-efficient.

Currently, all AIF<sub>3</sub> used in Australia is imported at prices higher than those paid by overseas competitors.

# ALCORE's Bauxite Refining technology can add \$600 to \$1,000/tonne in value to bauxite

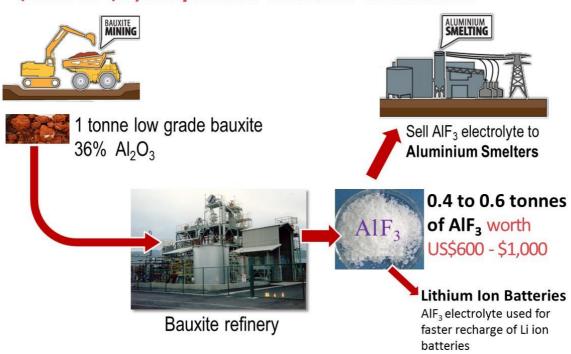


Figure 3: ALCORE bauxite refining processes low-value, low-grade but clean bauxite into high value AIF3 products that will be sold as a key feedstock for aluminium smelters in Australasia and elsewhere. Smaller but growing tonnages of higher priced pure AIF3 will be sold into the booming Lithium Ion battery industry

ALCORE Current Plan is for a Two-Staged Development

Stage 1: Engineering Evaluation Plant (EV Plant) A\$12.5m to A\$16m (being costed)

Stage 2: 50,000 tonnes per year production plant "ALF 1" for ~A\$50m

Timetable Design & costing of EV Plant – by end February 2018

Shareholder consultation & funding strategy - from now until end Q1 2018

Funding - during Q1 & Q2 2018

Marketing samples for offtake contracts - in September &-November 2018 Bankable feasibility study of ALF 1 production plant - by end Q1 2019

Commissioning ALF 1 Production Plant - by end 2019

Why Bell Bay, Tasmania or Townsville, QLD? Available key chemicals, large resources of clean-chemistry

bauxite and skilled workforces near under-utilised export ports.

Summary: Bauxite refining converts Tasmanian bauxite valued at approximately US\$50 per tonne into

a suite of products worth in excess of **US\$800** per tonne of bauxite.

This represents a more than **10-times** increase in value per tonne.



#### **OPERATIONS**

#### Sales

Dispatch Date	Sale Tonnes				
20/01/2016	446				
8/04/2016	5,557				
7/08/2016	35,913				
9/09/2016	89				
24/10/2017	35,669				
Cement Sub Total	77,674				
24/11/2015	195				
16/03/2016	390				
14/09/2016	1,500				
Jan-Feb 2017	1,500				
Sep-Nov 2018	1,500				
Fertiliser Sub Total	5,084				
Total all sales	82,759				

#### Stocks

Product stockpiles (at mine site, blended to specification)							
Cement-grade	14,500	tonnes					
Fertiliser grade	1,200	tonnes					
Subtotal product s/piles	15,700	tonnes					
Mine stockpiles (grade controlled, ready for blending)							
Metallurgical grade	6,900	tonnes					
Cement-grade	44,700	tonnes					
Fertiliser grade	16,800	tonnes					
Subtotal mine s/piles	68,400	tonnes					
Total stockpiles	84,100	tonnes					
Screened material available for classification	30,200	tonnes					
Broken Ore Stocks ready for screening:	36,700	tonnes					

#### Mine Site Operations

Stornoway Projects Pty Ltd carried out the specialist operations at the Bald Hill Bauxite Project mine site, including an important product assembly procedure that allows the blending of product to customer's specification. Bald Hill was the first new bauxite mine in Australia for more than 30 years.

#### **Land Transport Arrangements**

Dave Wagner & Son Pty Ltd has delivered the bauxite from the mine stockpile to port of Bell Bay ahead of schedule. Wagners transported the previous bauxite shipments and works well with all stakeholders.

#### **Port Arrangements**

QUBE Ports at Bell Bay provides the stevedoring services and the stockpiling arrangements, in conjunction with TasPorts.

ABx considers this consistent handling to be the best way to assure the tight quality controls that ABx wishes to be known for in the market. Inspections by two customers' agents confirmed this. Our customers appreciate that:

ABx bauxite is the best favour they can do for themselves and their cement plant.

#### **Fertiliser Sales Increased**

ABx's sales into the fertiliser industry have ramped up to satisfy customer demand over the summer period. This continues to be a modest but valuable business, supplying local industry.



ABx's Bauxite products being loaded from blended product stockpiles at Bald Hill Bauxite Project mine for trucking to Bell Bay Port





#### **BAUXITE MARKETS**

ABx sells into the strengthening cement markets until Chinese metallurgical demand recovers.

Whilst prices for metallurgical-grade bauxite remain soft, ABx will grow its bauxite business by supplying cement-grade bauxite for making high-strength cement and supplying fertiliser-grade bauxite for making superphosphate fertiliser. As demand for stronger, low alkali cement increases for infrastructure construction, demand should increase for premium cement-grade bauxite such as ABx bauxite which is exceptionally low in alkali salts, is quartz-free and has good materials handling performance.

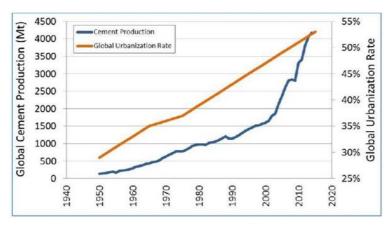


Figure 5: Graph showing cement production rising exponentially vs global urbanisation.

Source: Urbanisation - increased demand for cement, steel, aluminium, copper.... 3.12.2016

#### Infrastructure construction markets

ABx's low-sodium, low alkali, quartz-free cement-grade bauxite supplies the right forms of Al<sub>2</sub>O<sub>3</sub>, Fe<sub>2</sub>O<sub>3</sub> and SiO<sub>2</sub> in the correct ratio to increase the production rate of high-strength, corrosion-resistant Portland cement, by stopping kiln blockages, reducing fuel consumption and reducing wear rates on the kiln refractory brick linings.

#### Metallurgical Grade Bauxite Market (for aluminium production)

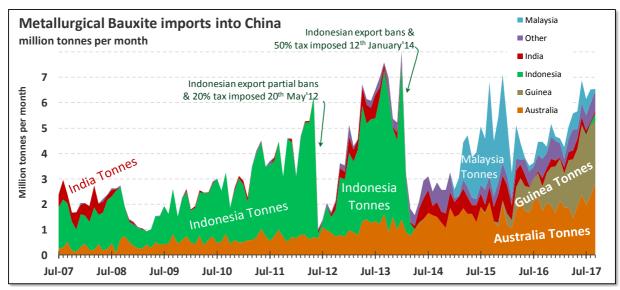


Figure 6: Graph of Chinese metallurgical bauxite import tonnes. Note the surging tonnages imported into China from Guinea since July 2007

Source: Chinese Customs, Bloomberg

**Commentary on tonnages:** Demand for bauxite continues to grow in China and globally as aluminium production grows. Indonesia imposed partial bans and high export duties on bauxite in 2012 and imposed a total ban in 2014. Sales to China ceased completely and are only just starting again on a very small scale.

In 2015, bauxite mining commenced from Malaysia along the east coast of the Malay Peninsula and supply that would normally have come from Indonesia was replaced by Malaysian supply in the short-term.

In late 2015, India imposed a heavy export duty on bauxite shipped from India. Almost immediately, China reduced its purchases from India (see heavy red tonnages in Figure 6 above).

During 2015-16, Chinese aluminium companies established their own mines in Guinea and have their own low-cost, large tonnage bulk-shipping supply chains from Guinea to China. Bauxite from Guinea has grown from zero tonnes in October 2015 to become the largest supplier into China, supplying 15.3 million tonnes in the last 6 months, as compared to 12.9 million tonnes from Australia.



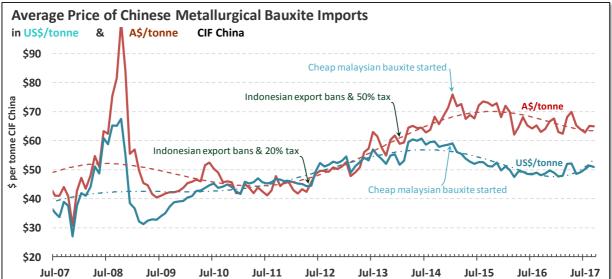


Figure 7: Graph of Chinese metallurgical bauxite averaged import <u>prices</u> in US\$ and A\$/tonne CIF China Source: Chinese Customs, Bloomberg

**Commentary on prices:** Metallurgical-bauxite prices fell significantly in 2015-16 as bauxite from Malaysia was dumped into an already weakening bauxite market. Prices remained flat during 2016 as supply from Guinea in western Africa into China grew massively to create a supply surplus. Average prices have risen slightly during 2017 as the proportion of the more expensive bauxite from Guinea has increased.

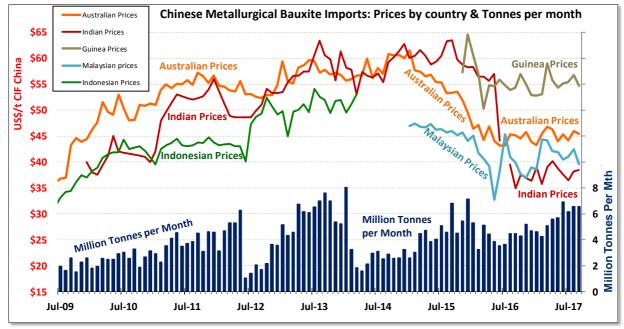


Figure 8: Chinese metallurgical bauxite import tonnes & <u>prices for major supplier countries</u> in US\$ per tonne CIF China.

Note that prices for bauxite from Guinea in West Africa are significantly higher than prices for bauxite from

Australia, India & Malaysia

Source: Chinese Customs, Bloomberg

Since bauxite supply from Guinea reached a stable level in 2016, prices for bauxite have stabilised at their new levels. The relative prices from each country represents a combination of cost of delivery and relative quality differences. This pattern resembles the pattern for other bulk commodities like iron ore and coal.

#### **Overall market commentary**

During times of cheap shipping costs, the flood of bauxite from Guinea effectively creates a ceiling on metallurgical bauxite prices, despite the growing demand for imported bauxite in China. China's strategies to create a reliable and controlled supply of vital bauxite ore supplies into China have succeeded remarkably well. ABx will sell metallurgical bauxite only when prices and sale terms are attractive.



#### **EXPLORATION**

#### **Review of Binjour project resources**

As part of a joint study with ABx's Indian marketing partner, Rawmin Mining, resource estimations for the Binjour deposit is in progress. The Binjour Bauxite project resources are currently estimated as totalling 28 million tonnes from its granted exploration licences at Binjour and granted mining lease at Toondoon, 25kms south of Mundubbera. This will be reviewed and updated by the current resource estimation work – see Figure 4.

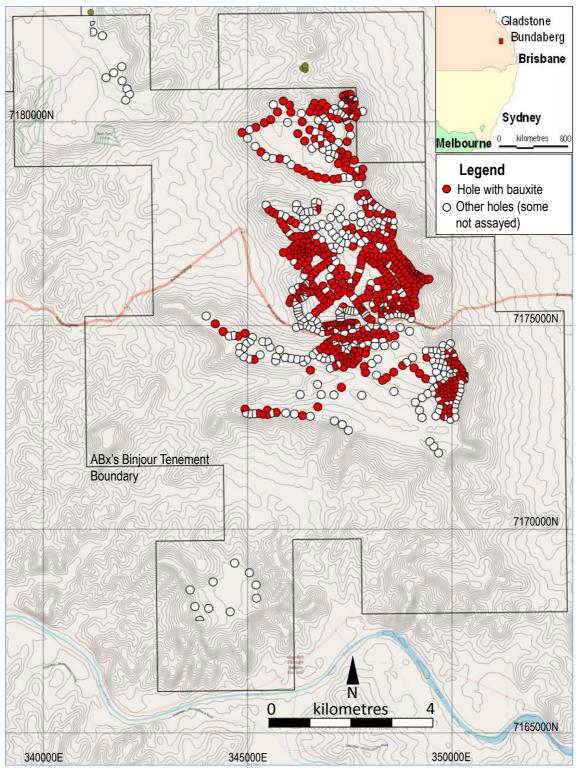


Figure 9: Binjour drillholes at the Binjour Bauxite Project area, 115kms from Bundaberg Export Port



#### **About Australian Bauxite Limited**

**ASX Code ABX** 

Web: www.australianbauxite.com.au

Australian Bauxite Limited (ABx) has its first bauxite mine in Tasmania and holds the core of the Eastern Australian Bauxite Province. ABx's 19 bauxite tenements in Queensland, New South Wales & Tasmania exceed 1,450 km² and were selected for (1) good quality bauxite; (2) near infrastructure connected to export ports; & (3) free of socio-environmental constraints. All tenements are 100% owned, unencumbered & free of third-party royalties.

ABx's discovery rate is increasing as knowledge, technology & expertise grows.

The Company's bauxite is high quality gibbsite trihydrate (THA) bauxite that can be processed into alumina at low temperature.

ABx has declared large Mineral Resources at Inverell & Guyra in northern NSW, Taralga in southern NSW, Binjour in central QLD & in Tasmania, confirming that ABx has discovered significant bauxite deposits including some of outstandingly high quality.

At Bald Hill near Campbell Town, Tasmania, the Company's first bauxite mine commenced operations in December 2014 – the first new Australian bauxite mine for more than 35 years.

ABx aspires to identify large bauxite resources in the Eastern Australian Bauxite Province, which is a globally significant bauxite province. ABx has created significant bauxite developments in 3 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.

Directors Officers

Paul Lennon Chairman Leon Hawker Chief Operating Officer Ian Levy CEO & MD Jacob Rebek Chief Geologist

Ken Boundy Director Paul Glover Logistics & Exploration Manager

Henry Kinstlinger Company Secretary

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Email: ilevy@australianbauxite.com.au



#### Resource Statement, Definitions and Qualifying Statement

Tabulated below are the Mineral Resources for each ABx Project. The initial ASX disclosure for these Resources is given in the footnotes to the table. Refer to these announcements for full details of resource estimation methodology and attributions.

**Table 1:** ABx JORC Compliant Resource Estimates

Table T. ADX	JURU UU	прпаг	t Resour	ce Est	imates	•									
Region	Resource	Million	Thickness	$Al_2O_3$	SiO <sub>2</sub>	A/S	$Fe_2O_3$	TiO <sub>2</sub>	LOI	Al <sub>2</sub> O <sub>3</sub> Avi	Rx SiO <sub>2</sub>	AvI/Rx	% Lab	O'Burden	Int.Waste
	Category	Tonnes	(m)	%	%	ratio	%	%	%	@ 143°C %	%	ratio	Yield	(m)	(m)
CAMPBELL TOWN	Inferred	1.3	3.0	42.6	3.5	12	25.4	3.5	24.6	36.7	3.0	12	50	2.1	0.1
AREA TASMANIA 7	Indicated	1.4	3.2	42.5	3.2	14	26.4	3.0	24.5	36.2	2.8	14	55	1.8	0.1
	Total	2.7	3.1	42.5	3.3	13	25.9	3.3	24.5	36.5	2.9	13	52	2.0	0.1
Fingal Rail Cement-	Inferred	2.4	3.3	30.9	19.5		35.4	3.9	16.7		_			1.9	0.1
Grade Bauxite 8	Indicated	3.9	3.8	31.1	19.0		35.2	4.0	16.9		-			1.7	0.1
	Total	6.3	3.6	31.0	19.2		35.3	4.0	16.8	-	-			1.8	0.1
DL-130 AREA TAS 1	Inferred	5.7	3.8	44.1	4.3	10	22.8	3.1	25.0	37.6	3.2	12	55	1.5	0.1
	Total Tas	14.7	3.6	38.2	10.5	n.a.	28.7	3.5	21.4	n.a.	n.a.	n.a.	54	1.7	0.1
BINJOUR QLD 2	Inferred	9.0	3.9	43.7	4.5	10	22.4	3.6	24.2	38.0	3.8	10	59	8.2	0.3
DSO	Indicated	15.5	5.3	44.2	3.1	15	23.4	3.7	24.9	39.5	2.6	15	62	9.4	0.3
	Total	24.5	4.8	44.1	3.6	12	23.1	3.7	24.6	39.0	3.0	13	61	8.9	0.3
TOONDOON QLD 3	Inferred	3.5	4.9	40.2	7.2	6	25.3	4.9	21.7	32.8	5.2	6	67	1.5	0.0
TARALGA S. NSW 4	Inferred	9.9	3.1	40.4	5.7	7	24.6	4.1	22.2	35.2	1.9	18	54	0.1	0.2
	Indicated	10.2	3.7	41.3	5.3	8	25.9	4.0	22.9	36.1	1.9	19	55	0.7	0.4
	Total	20.1	5.6	40.8	5.5	7	25.3	4.0	22.6	35.7	1.9	19	55	0.5	0.3
PDM-DSO*	Inferred	7.6	2.5	37.0	6.0	6	38.4	3.5	13.3	22.1*	1.3	17	72	0.2	0.1
	Indicated	10.3	3.1	37.6	3.9	10	40.4	3.7	13.5	22.4*	1.1	20	71	0.7	0.4
	Total	17.8	5.8	37.3	4.8	8	39.6	3.6	13.5	22.3*	1.2	18	72	0.5	0.3
	Total Taralg	a 37.9	5.7	39.2	5.2	8	32.0	3.8	18.3	35.4	1.6	23	63	0.5	0.3
INVERELL N. NSW 5	Inferred	17.5	4.7	39.8	4.8	8	27.7	4.3	22.2	31.0	4.2	7	61	2.3	
	Indicated	20.5	4.8	40.6	4.7	9	26.9	4.1	22.5	32.0	4.0	8	60	2.4	
	Total	38.0	4.8	40.2	4.7	9	27.3	4.2	22.4	31.6	4.1	8	61	2.4	
GUYRA N. NSW <sup>6</sup>	Inferred	2.3	4.2	41.4	3.6	12	26.2	3.3	24.6	35.0	2.8	13	56	3.4	
	Indicated	3.8	5.9	43.1	2.6	16	27.3	3.9	24.5	37.4	2.0	18	61	4.4	
	Total	6.0	5.3	42.5	3.0	14	26.9	3.7	24.5	36.5	2.3	16	59	4.0	
CDAND TOTAL A	II ADEAS	12/16								* PDM is Al <sub>2</sub>	O <sub>3</sub> spinel. A	Al <sub>2</sub> O <sub>3</sub> AvI at	225°C is >	>35%	

GRAND TOTAL ALL AREAS 124.6

Explanations: All resources 100% owned & unencumbered. Resource tonnage estimates are quoted as in-situ, pre-mined tonnages. All assaying done at NATA-registered ALS Laboratories, Brisbane. Chemical definitions: Leach conditions to measure available alumina "Al2O3 Avl" & reactive silica "Rx SiO2" is 1g leached in 10ml of 90gpl NaOH at 143°C for 30 minutes. LOI = loss on ignition at 1000°C. "AvI/Rx" ratio is (Al203 AvI)/ (Rx SiO2) and "A/S" ratio is Al203/SiO2. Values above 6 are good, above 10 are excellent. Lab Yield is for drill dust samples screened by ALS lab at 0.26mm screen size Production yields are not directly related to Lab Yield and are typically between 50% and 70%. Tonnages requiring no upgrade will have 100% yield.

Resource estimates exclude large tonnages of potential extensions that would be drilled during production to extend tonnages.

The information above relates to Mineral Resources previously reported according to the JORC Code (see Competent Person Statement) as follows:

- <sup>1</sup> Maiden Tasmania Mineral Resource, 5.7 million tonnes announced on 08/11/2012
- <sup>2</sup> Binjour Mineral Resource, 24.5 million tonnes announced on 29/06/2012
- <sup>3</sup> QLD Mining Lease 80126 Maiden Resource, 3.5 million tonnes announced on 03/12/2012
- Goulburn Taralga Bauxite Resource Increased by 50% to 37.9 million tonnes announced on 31/05/2012
- <sup>5</sup> Inverell Mineral Resource update, 38.0 million tonnes announced on 08/05/2012
- <sup>6</sup> Guyra Maiden Mineral Resource, 6.0 million tonnes announced on 15/08/2011
- <sup>7</sup> Initial resources for 1<sup>st</sup> Tasmanian mine, 3.5 million tonnes announced on 24/03/2015
- 8 Resource Upgrade for Fingal Rail Project, Tasmania announced on 25/08/2016

Tabulated Resource numbers have been rounded for reporting purposes. The Company conducts regular reviews of these Resources and Reserve estimates and updates as a result of material changes to input parameters such as geology, drilling data and financial metrics.

Global Mineral Resources declared to 25/08/2016 total 124.6 million tonnes.



#### **Qualifying statements**

#### General

The information in this report that relate to Exploration Information and Mineral Resources 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 Mr Levy is a director of Australian Bauxite Limited.

#### Mainland

The information relating to Mineral Resources on the Mainland was prepared and first disclosed under the JORC Code 2004. It has not been updated since to comply with the JORC Code 2012 on the basis that the information has not materially changed since it was last reported.

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 Reserves. Mr Rebek and Mr Levy have consented in writing to the inclusion in this report of the Exploration Information in the form and context in which it appears.

#### **Tasmania**

The information relating to Exploration Information and Mineral Resources in Tasmania has been prepared or updated under the JORC Code 2012.

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 2012 Edition of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves. Mr Rebek and Mr Levy have consented in writing to the inclusion in this report of the Exploration Information in the form and context in which it appears.

#### **Disclaimer Regarding Forward Looking Statements**

This ASX announcement (Announcement) contains various forward-looking statements. All statements other than statements of historical fact are forward-looking statements. Forward-looking statements are inherently subject to uncertainties in that they may be affected by a variety of known and unknown risks, variables and factors which could cause actual values or results, performance or achievements to differ materially from the expectations described in such forward-looking statements.

ABx does not give any assurance that the anticipated results, performance or achievements expressed or implied in those forward-looking statements will be achieved.

Table 2: Tenement information required under LR 5.3.3

Tenement No.	Location
New South Wales	
EL 6997	Inverell
EL 7361	Guyra
EL 8370	Penrose Forest
EL 7357	Taralga
EL 7681	Taralga Extension
EL 8440	New Stannifer
EL 8600	Penrose Quarry
Queensland	
EPM 17790	Hampton
EPM 17830	Haden
EPM 17831	Hillgrove
EPM 18014	Binjour
EPM 18772	Binjour Extension
EPM 25146	Toondoon EPM
EPM 19427	Brovinia 2
ML 80126	Toondoon ML

Tasmania	
EL 7/2010	Conara
EL 9/2010	Deloraine
EL 12/2012	Scottsdale
EL 16/2012	Reedy Marsh
EL 18/2014	Prosser's Road
ML 1961 P/M	Bald Hill Bauxite

#### Note:

During the quarter, 2 exploration licenses were relinquished.

All tenements are in good standing, 100% owned and not subject to Farm-in or Farm-out agreements, third-party royalties nor encumbered in any way.





Figure 10: ABx Project Tenements and Major Infrastructure in Tasmania, NSW and Qld, Eastern Australia