

# ASX ANNOUNCEMENT 25 August 2016

# Significant Resource Increase at Fingal Rail Bauxite Project to 6 million tonnes

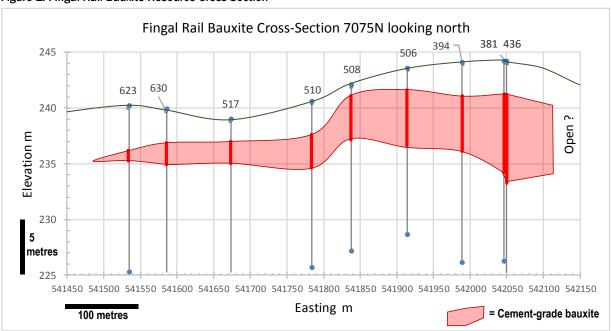
- Australian Bauxite Limited (ABx)'s Fingal Rail Bauxite Project in northern Tasmania has proven to be ideal for production of cement-grade bauxite for rail transport and export from Bell Bay Port
- Cement-grade bauxite resources for the Fingal Rail Bauxite Project total 6.3 million tonnes <sup>1</sup> which is a 5-fold increase compared with its maiden resource estimate of 1.18 million tonnes
- Fingal Rail is considered the most likely second mine for ABx and would be operated as part of the Campbell Town production centre under the same operating team that is working on the Bald Hill Mine, which was the first new bauxite mine in Australia for more than 35 years.
- When long-term sale contracts are finalised, ABx will expedite development of Fingal Rail which holds substantial tonnages of cement-grade bauxite that are ideal for large-scale production and are located immediately adjacent to the rail line (see Figures 1 to 4)
- 90% of Fingal Rail resources meet saleable grade in its raw state but it is anticipated that most of
  the bauxite production from Fingal Rail Bauxite Project will be dry-screened into a range of qualityassured product types to suit the specific requirements of each customer
- Total Tasmanian bauxite resources now exceed 12 million tonnes (an increase of 33%) 1
- The upgrade to Fingal Rail bauxite resources increase ABx's total resource base for all regions in Eastern Australia to 124 million tonnes, of which 12 million tonnes are in Tasmania
- Tasmanian bauxite deposits at Nile Road, DL-130 and Portside (see Figure 2) will be reassessed for their cement-grade bauxite resources and for their economic potential.

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Figure 1: Fingal Rail Bauxite Resource Cross Section



AUSTRALIAN BAUXITE LIMITED

ACN 139 494 885

<sup>1</sup> See resource statement



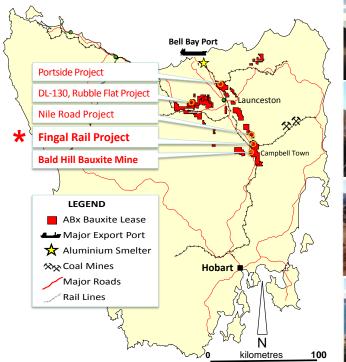




Figure 2:
Location of
Fingal Rail and
other ABx
projects and
transport
infrastructure in
Tasmania,
Australia.

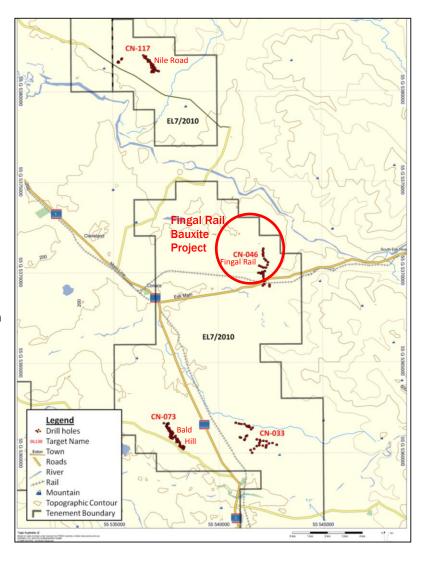
Figure 3: Location of identified bauxite deposits in the Campbell Town production centre, northern Midlands, Tasmania

Current bauxite resources have been estimated for (from south to north):

- 1. Bald Hill
- 2. Fingal Rail
- 3. Nile Road

Fingal Rail is known to extend into a plateau area south of the Esk Highway.

Several other significant occurrences of bauxite are known but not yet drilled.





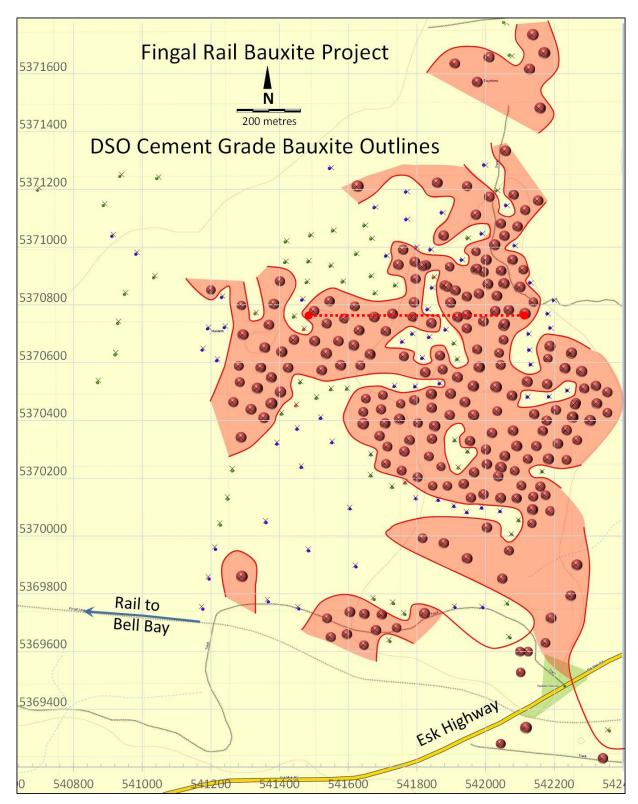


Figure 4: Location of Fingal Rail Bauxite Project and resources identified by drilling to date

Notes: (1) most gaps in the resource areas are unassayed holes. The bauxite is extensive and continuous.

- (2) Figure 1 on Page 1 shows a typical East-West cross-section at 537075N (red dashed line on Figure 4)
- (2) "DSO" is direct shipping ore see Definitions below.



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

**ASX Code ABX** 

Latest News: www.australianbauxite.com.au

Australian Bauxite Limited (ABx) has started its first bauxite mine in Tasmania and holds the core of the Eastern Australian Bauxite Province. ABx's 37 bauxite tenements in Queensland, New South Wales & Tasmania exceed 5,000 km² and were rigorously 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 & can be processed into alumina at low temperature and is perfect for cement manufacture and for fertiliser production.

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.

In Tasmania, at Bald Hill, the Company's first bauxite mine commenced operations on schedule on 9 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 emerging as 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 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 LennonChairmanLeon HawkerChief Operating OfficerIan LevyCEO & MDJacob RebekChief GeologistKen BoundyDirectorHenry KinstlingerSecretary

#### Governance arrangements and internal controls – Mineral Resources

ABx has ensured that reported Mineral Resource estimates are subject to governance arrangements & internal controls. Resources & geology models generated by ABx staff are reviewed by external consultants. Data used for Mineral Resource estimates are maintained & quality-assured by independent expert consultants, with numerous internal reviews by ABx senior staff. Mineral Resource estimates are reviewed to ensure honouring of the ABx geological model & has been classified & reported in accordance with the JORC Code (2012).

ABx confirms that it is not aware of any new information or data that materially affects information included in previously released reports. Material assumptions & technical parameters underpinning resource estimates in the relevant market announcement continue to apply & have not materially changed.

#### Definitions

DSO bauxite Direct Shipping Bauxite or "Direct Shipping "Ore", being bauxite that can be exported directly with minimal processing

Averaging method: Aggregated average grades are length-weighted averages of each metre's grades.

True Width: The true-width of the deposit is not known & will be determined by further resource drilling.

## Qualifying statements

Information in this report relating to Exploration Information & Mineral Resources are based on information compiled by Jacob Rebek & Ian Levy who are members of The Australasian Institute of Mining & Metallurgy & the Australian Institute of Geoscientists. Mr Rebek & Mr Levy are qualified geologists & Mr Levy is a director of ABx.

#### Resource Estimation in Tasmania

Information in this report relating to Mineral Resources in Tasmania has been prepared or updated by Mr Levy in accordance with the JORC Code 2012.

Mr Rebek & Mr Levy have sufficient experience, which is relevant to the style of mineralisation & type of deposit under consideration & 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 & Ore Reserves. Mr Rebek & Mr Levy have consented in writing to the inclusion in this report of the Exploration Information in the form & context in which it appears.



# Fingal Rail Bauxite Resource Estimates

**Location & Infrastructure:** In northern Tasmania, 14km by road north of Campbell Town via the heavy duty Midland Highway and Esk Highway. Bauxite product will be loaded onto rail that passes through the project area to Bell Bay Port – see Figures 2 to 4. Project Centroid 541841E, 5370543N

**Geology:** bauxite occurs on a remnant plateau, generally covered in loose sand layer up to 4 metres thick – see Figure 5 overleaf. Basement is a clay zone with variable amounts of bauxite nodules that grades into basal Volcanic tuffs of Lower Tertiary age at depth. Dolerite plugs and sills of mid Jurassic age occur in the area.

**Mineralisation:** Tasmanian bauxite has lumps of bauxite in clay, forming an irregular, tight-packed formation. Soil is thin. Overburden up to 4m thick is approximately 2 metres of unconsolidated sand and approximately 1.5 metres of low grade bauxite mixed with loose clay material and is excluded from resources – see Figure 6 overleaf. Internal waste is rare. A clay horizon with nodules of bauxite beneath the bauxite formation is also excluded.

Tenement: Fingal Rail lies within Conara Exploration Licence EL 7/2010. A Mining Lease application is in preparation.

Discovery: ABx encountered bauxite in the area in 2011 but did not find the main deposit until 2012.

Land use: firewood harvesting & hunting

**Drill Statistics see Figure 4:** 392 holes were drilled using the reverse circulation aircore technique for a total of 5,150 metres. 94% of samples were collected at 1m downhole intervals and the rest at 0.5m.

222 holes returned ore grade bauxite totalling 775 metres of fully assayed, bauxite-grade samples.

195 metres were low grade bauxite, mainly overburden and internal dilution. An additional 326 metres of non-mineralised material were assayed and tested for mine geotechnical information and to search for vectors to ore concealed beneath the sand layer.

**Cutoff Grades & Density:** Cement-grade bauxite minimum grades were applied to the raw whole-rock drillhole samplesl – see table 1 at right. In-situ density was measured to be 2.0 tonnes per cubic metre.

Table 1: Cut-Off Grades Applied									
Minimum Al <sub>2</sub> O <sub>3</sub> Minimum Fe <sub>2</sub> O <sub>3</sub> Min Al <sub>2</sub> O <sub>3</sub> +Fe <sub>2</sub> O <sub>3</sub>									
29 %	29 %	58 %							

Other critical bauxite qualities are required to meet strict engineering specifications in the production of high-standard, corrosion-resistant cement with excellent late strength performance. All samples tested by major cement makers to date have met all specifications, but details are commercial-in-confidence.

Table 2: Summary of Cement-Grade Resources Identified at Fingal Rail Bauxite Project, Tasmania

FINGAL RAIL BAUXITE PROJECT Cement-grade bauxites. Indicated + Inferred Resources	Tonnes	Al <sub>2</sub> O <sub>3</sub> %	Fe <sub>2</sub> O <sub>3</sub>	Al <sub>2</sub> O <sub>3</sub> + Fe <sub>2</sub> O <sub>3</sub>	Al <sub>2</sub> O <sub>3</sub> / Fe <sub>2</sub> O <sub>3</sub>	SiO <sub>2</sub> in Clay %	SiO <sub>2</sub> in Quartz %	TiO <sub>2</sub>	LOI <sub>1000</sub> %	Sodium equival- ent %
Cement-grade bauxite										
DSO Cement-Grade Hi Fe Bauxite	1,836,690	27.9	35.8	63.6	0.78	24.2	1.9	4.2	14.8	0.136
DSO Cement-Grade Hi Al Bauxite	2,751,100	35.5	28.1	63.6	1.26	10.7	1.2	4.2	20.0	0.083
Subtotal cement-grade bauxites	4,587,790	32.4	31.2	63.6	1.04	16.1	1.5	4.2	17.9	0.105
Cement-grade iron ore										
DSO Cement-Grade Iron Ore	1,705,780	27.1	46.4	73.5	0.58	21.6	2.1	3.5	13.8	0.173
TOTAL FINGAL RAIL BAUXITE PROJECT	6,293,570	31.0	35.3	66.3	0.88	17.6	1.6	4.0	16.8	0.12

Definition:  $LOI_{1000}$  is Loss on Ignition when pulverised dry samples are heated to 1000 degrees centigrade for 30 minutes and mainly arises from the loss of hydroxide molecules from within the clay and gibbsite minerals.

Average bauxite layer thickness: 3.595 metres

Average overburden depth (sand): 1,811 metres (indicating a low strip ratio of 0.5 to 1)

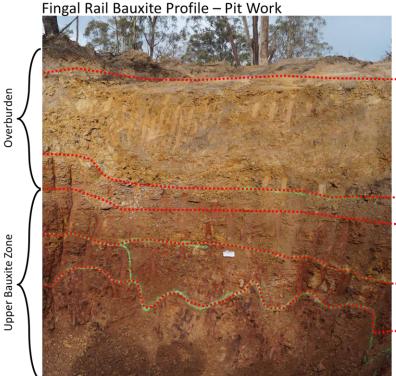
Average thickness of internal waste: 0.104 metres (representing 2.9% of bauxite layer thickness)

See detailed resources statement below in Table 3.



Table 3: Detailed Cement-Grade Resource Statement for Fingal Rail Bauxite Project, Tasmania

FINGAL RAIL BAUXITE PROJECT Cement-grade bauxites (detailed)	Tonnes	Al <sub>2</sub> O <sub>3</sub>	Fe <sub>2</sub> O <sub>3</sub>	Al <sub>2</sub> O <sub>3</sub> + Fe <sub>2</sub> O <sub>3</sub>	Al <sub>2</sub> O <sub>3</sub> / Fe <sub>2</sub> O <sub>3</sub>	SiO <sub>2</sub> in Clay %	SiO <sub>2</sub> in Quartz %	TiO <sub>2</sub>	LOI <sub>1000</sub> %	Sodium equival- ent %	Na₂O %	K₂O %	CaO %	Cr <sub>2</sub> O <sub>3</sub> %	MgO %	P <sub>2</sub> O <sub>5</sub> %	SO <sub>3</sub> %
Cement-grade bauxite																	
DSO Cement-Grade Hi Fe Bauxite Indicated	1,111,980	27.9	35.8	63.7	0.78	24.0	1.9	4.2	14.8	0.136	0.121	0.023	0.006	0.065	0.159	0.037	0.383
DSO Cement-Grade Hi Al Bauxite Indicated	724,710	27.9	35.7	63.6	0.78	24.6	1.8	4.3	14.7	0.136	0.121	0.023	0.006	0.065	0.159	0.037	0.383
Total DSO Cement-Grade Hi Fe Bauxite	1,836,690	27.9	35.8	63.6	0.78	24.2	1.9	4.2	14.8	0.136	0.121	0.023	0.006	0.065	0.159	0.037	0.383
DSO Cement-Grade Hi Al Bauxite Indicated	1,322,220	34.9	28.9	63.8	1.20	10.6	1.0	4.6	19.8	0.094	0.079	0.023	0.005	0.055	0.126	0.031	0.352
DSO Cement-Grade Hi Al Bauxite Inferred	773,680	35.1	28.9	64.0	1.21	10.4	1.0	4.3	20.0	0.094	0.079	0.023	0.005	0.055	0.126	0.031	0.352
Total DSO Cement-Grade Hi Al Bauxite	2,095,900	34.9	28.9	63.9	1.21	10.5	1.0	4.5	19.9	0.094	0.079	0.023	0.005	0.055	0.126	0.031	0.352
Screened Cement-Grade Hi Al Bauxite Indicated	401.760	37.5	25.4	62.9	1.48	11.2	1.7	3.2	20.6	0.049	0.041	0.012	0.012	0.052	0.085	0.030	0.329
Screened Cement-Grade Hi Al Bauxite Inferred	253,440		25.8	62.8	1.44	11.4	1.8	3.2	20.3	0.049	0.041	0.012	0.012	0.052	0.085	0.030	0.329
Total Screened Cement-Grade Hi Al Bauxite	655,200		25.5	62.8	1.46	11.3	1.7	3.2	20.4	0.049	0.041	0.012	0.012	0.052	0.085	0.030	0.329
Indicated Cement-Grade Bauxite	2.835.960	32.5	31.1	63.6	1.04	15.9	1.5	4.2	17.9	0.104	0.090	0.021	0.006	0.059	0.133	0.033	0.361
Inferred Cement-Grade Bauxite	1.751.830		31.3	63.6	1.04	16.4	1.5	4.1	17.8	0.104	0.030	0.021	0.006	0.059	0.133	0.033	0.362
TOTAL CEMENT-GRADE BAUXITE	4,587,790		31.2	63.6	1.04	16.1	1.5	4.2	17.9	0.105	0.091	0.021	0.006	0.059	0.133	0.033	0.361
Cement-grade iron ore																	
DSO Cement-Grade Iron Ore Indicated	1,017,120		46.5	73.6	0.58	21.6	2.1	3.5	13.8	0.173	0.158	0.024	0.004	0.081	0.193	0.039	0.283
DSO Cement-Grade Iron Ore Inferred	688,660	-	46.1	73.2	0.59	21.5	2.1	3.5	13.9	0.173	0.158	0.024	0.004	0.081	0.193	0.039	0.283
Total Cement-Grade Iron Ore	1,705,780	27.1	46.4	73.5	0.58	21.6	2.1	3.5	13.8	0.173	0.158	0.024	0.004	0.081	0.193	0.039	0.283
Total Cement-Grade Resources																	
Indicated Resources	3,853,080	31.1	35.2	66.2	0.88	17.4	1.6	4.0	16.9	0.122	0.108	0.022	0.006	0.064	0.149	0.035	0.340
Inferred Resources	2,440,490	30.9	35.4	66.4	0.87	17.9	1.6	3.9	16.7	0.124	0.110	0.022	0.006	0.065	0.150	0.035	0.339
TOTAL FINGAL RAIL BAUXITE PROJECT	6,293,570	31.0	35.3	66.3	0.88	17.6	1.6	4.0	16.8	0.123	0.109	0.022	0.006	0.065	0.149	0.035	0.340



Aeolian Sand

 ${\bf Clay}-{\bf Porous}$  muddy sediment with some halloysite infilling in the pores and interstices

**Detrital PDM accumulations** – Predominantly rounded PDM loosely cemented by muddy sediment with halloysite infilling

**Detrital Bauxite Zone** – Cemented PDM conglomerate. This layer has nodules of rounded PDM fragments in a layer that maybe the result of some transportation prior to deposition. A thin grey clay band occurs at the base of the layer as the basal contact.

Cemented Nodular Bauxite - Vuggy red detrital bauxite nodules with dispersed PDM in a bauxite/clay matric with inclusions of indurated sandstone. Irregular basal contact.

Vitric PDM (black) in Hard Bauxite Layer – Amoebic shaped PDM material and rounded PDM nodules appear in a harder bauxite as random amoebic blebs and discrete bands. The PDM has a glassy appearance with concentric banding and conchoidal fracturing

Figure 5: a 4.5m high pit wall at Fingal Rail (the top sand layer had mainly been cleaned away for safety) An adjacent drill hole encountered a further 4 metres of hard bauxite below the pit floor.



#### Resource Statement for all areas in Eastern Australia

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

**Table 4**: ABx JORC Compliant Resource Estimates

Region	Resource	Million	Thickness	$Al_2O_3$	SiO <sub>2</sub>	A/S	Fe <sub>2</sub> O <sub>3</sub>	TiO <sub>2</sub>	LOI	Al <sub>2</sub> O <sub>3</sub> Avi	Rx SiO <sub>2</sub>	Avl/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 <sup>8</sup>	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
	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	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 6	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	

## GRAND TOTAL ALL AREAS 124.6

\* PDM is Al<sub>2</sub>O<sub>3</sub> spinel. Al<sub>2</sub>O<sub>3</sub> AvI at 225°C is >35%

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 AvI" & 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 (Al2O3 AvI)/(Rx SiO2) and "A/S" ratio is Al2O3/SiO2. Values above 6 are good, above 10 are excellent. Tonnage is for bauxite in-situ. Lab Yield is for drill dust samples screened by ALS lab at 0.26mm. Production yields are not directly related and are typically between 60% and 75%. Tonnages requiring no upgrade will have 100% yield. Resource estimates exclude large tonnages of potential extensions, overburden & interburden detrital bauxite and underlying transitional bauxite mineralisation. Production will clarify these materials.

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.

 $Avl\ Al_2O_3 = available\ Al_2O_3$  at  $143^{\circ}C$   $Rx = reactive\ SiO_2$   $Avl\ Rx = available\ alumina\ to\ reactive\ silica\ ratio,\ A/S = alumina/silica\ ratio,\ LOI = loss\ on\ ignition,\ OB = overburden,\ Int\ W = internal\ waste,\ DSO = Direct\ Shipping\ Bauxite,\ PDM = poorly\ diffracting\ material\ (under\ XRD),\ Lab\ Yield = wet\ screen\ yield\ from\ drill\ dust\ The\ information\ above\ relates\ to\ Mineral\ Resources\ previously\ reported\ according\ to\ the\ JORC\ Code\ (see\ Competent\ Person\ Statement)\ as\ follows:$ 

- <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
- <sup>4</sup> Goulburn Taralga Bauxite Resource Increased by 50% to 37.9 million tonnes announced on 31/05/2012
- Inverell Mineral Resource update, 38.0 million tonnes announced on 08/05/2012
- <sup>°</sup> Guyra Maiden Mineral Resource, 6.0 million tonnes announced on 15/08/2011
- 7 Initial resources for 1st Tasmanian mine, 3.5 million tonnes announced on 24/03/2015
- <sup>8</sup> Resource Upgrade for Fingal Rail Project, Tasmania announced on 25/08/2016





Figure 6: ABx Project Tenements and Major Infrastructure in Tasmania, NSW & QLD, Eastern Australia



ASX: ABX

# Australasian Code for Reporting Exploration Results, Mineral Resources and Ore Reserves "The JORC Code": Table 1 Section 1 – Sampling Techniques and Data

	ampling Techniques and Data				
Criteria	JORC Code explanation	Commentary			
Sampling techniques	Nature and quality of sampling	<ul> <li>Reverse circulation aircore drillhole samples at 1 metre depth intervals.</li> </ul>			
	Measures to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.	<ul> <li>Representivity verified by twinned holes, drill sampling tests at 0.5 metre intervals, core holes and bulk pits. Correlations are moderate to good.</li> </ul>			
	Material aspects of the determination of mineralisation.	Bauxite identified geologically & field lab tests, ¼ samples sent to ALS Laboratories Brisbane. Wet-screened at 0.26mm; recovered bauxite is assayed. Representative unscreened bauxite-samples are assayed. Laboratory yields bear an indirect relationship with actual production yields which have averaged above 65% in bulk tests & mining.			
Drill method	Drill type	Reverse circulation aircore drilling.			
Drill sample recovery	Recording and assessing chip sample recoveries and results assessed.	<ul> <li>Weigh samples, volume estimates, comparisons with bulk pits.</li> </ul>			
	Measures taken to maximise sample recovery & ensure representative samples.	<ul> <li>Lowest practical air pressure used, steady drill speed.</li> <li>Drilling contractor is paid per day not per metre.</li> </ul>			
	<ul> <li>Relationship between sample recovery and grade and possible sample bias.</li> </ul>	<ul> <li>No relationship has been observed between core recovery &amp; grade.</li> </ul>			
Logging	<ul> <li>Have chip samples been geologically &amp; geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies &amp; metallurgical studies.</li> </ul>	<ul> <li>Every metre of drill chips is logged geologically, photographed, assayed and all data recorded in ABacus database. Geotechnical tests are done during bulk test pits and trial mining.</li> </ul>			
	<ul> <li>Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.</li> </ul>	<ul> <li>Geological logging &amp; field lab tests. Channel sampling, bulk sampling &amp; screened samples of bulk pits. All samples are photographed &amp; stored in database.</li> </ul>			
	The total length and percentage of the relevant intersections logged.	100% logged. Report lists total metres drilled, sampled & assayed.			
Sub-sampling techniques and sample	<ul> <li>For non-core samples, whether riffled, tube sampled, rotary split, etc &amp; if sampled wet or dry.</li> </ul>	<ul> <li>Quartered sampling done on undried aircore chip samples, as drilled. Bauxite is dry.</li> </ul>			
preparation	Nature, quality and appropriateness of the sample preparation technique.	<ul> <li>Sample preparation technique suits bauxite type.</li> <li>Confirmed by multi-tests.</li> </ul>			
	Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.	<ul> <li>Repeated sub-sampling and twinned holes produces comparable laboratory results within natural variance range.</li> </ul>			
	Measures to ensure sampling representa- tiveness of the in situ material collected.	<ul> <li>Repeated sub-sampling &amp; twinned holes produces comparable results within natural variance range.</li> </ul>			
	Whether sample sizes are appropriate to the grain size of the material being sampled.	<ul> <li>Sample sizes are appropriate to the grain size of the material being sampled. Complies with sampling theory.</li> </ul>			
	<ul> <li>Nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.</li> </ul>	<ul> <li>ALS uses industry-standard techniques for total analysis for trihydrate bauxite types. Confirmed by inter-lab tests &amp; customers are satisfied with ALS laboratory results after testing many samples.</li> </ul>			
Quality of assay data and laboratory tests	<ul> <li>For geophysical tools, spectrometers, handheld XRF instruments, etc, the parameters used in determining the analysis including instrument make, model, reading times, calibrations factors applied &amp; their derivation, etc.</li> </ul>	<ul> <li>Handheld XRF results in field laboratory used to select samples for ALS laboratory analyses.</li> <li>Calibration studies done and standards used. Machine is serviced regularly.</li> </ul>			
	Nature of quality control procedures adopted (eg standards, blanks, duplicates, external laboratory checks) & whether acceptable levels of accuracy (ie lack of bias) & precision have been established.	<ul> <li>Repeated sub-sampling &amp; twinned holes produces comparable laboratory results within natural variance range.</li> <li>Laboratory standards statistically assessed during resource estimation.</li> </ul>			
Verification of sampling and assaying	<ul> <li>The verification of significant intersections by either independent or alternative company personnel.</li> </ul>	<ul> <li>Repeated sub-sampling and twinned holes produces comparable laboratory results within natural variance range.</li> </ul>			
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Criteria	JORC Code explanation	Commentary
	Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.	<ul> <li>Well-established professional database procedures, including links back to Lab data certificates, original logging sheets and sample photos.</li> </ul>
	Discuss any adjustment to assay data.	<ul> <li>When not material, some in-situ data can be estimated mathematically from screened lab results of the same samples.</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</li> </ul>	<ul> <li>Drill holes sited using hand-held GPS accurate within 2 metres horizontally and within 3 metres vertically.</li> <li>No down-hole surveys required for 15 metre deep</li> </ul>
	used in Mineral Resource estimation.	vertical holes.
	Specification of the grid system used.	• MGA94
	Quality and adequacy of topographic	Digital 5 metre topographic contours
	control.	<ul> <li>Pre-mining, landform is professionally surveyed, accurate to within 0.1 metres by Leica GS15 dual frequency receiver.</li> </ul>
Data spacing	<ul> <li>Data spacing for reporting of Exploration Results.</li> </ul>	Not specified.
and distribution	Is data spacing and distribution sufficient to establish degrees of geological and grade continuity appropriate for the Mineral	<ul> <li>Drill spacing is suitable for estimation of Inferred &amp; Indicated resources but not Measured which may need mine confirmation.</li> </ul>
	Resource and Ore Reserve estimation?	<ul> <li>Spacings confirmed geostatistically.</li> </ul>
	<ul> <li>Has sample compositing been applied?</li> </ul>	No sample compositing done.
Orientation of data in relation to geological	<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> </ul>	<ul> <li>Shallow vertical holes are used to test surface layer of bauxite as done by all bauxite companies.</li> <li>Comparisons with bulk pits samples are satisfactory</li> </ul>
structure	Has orientation of drilling & key mineralised structures introduced a sampling bias?	<ul> <li>No bias has been detected from comparisons between drillhole results and bulk pit results.</li> </ul>
Sample security	Measures taken to ensure sample security.	<ul> <li>Chain of custody methods, wire-tying &amp; plastic wrapping of pallets of samples.</li> </ul>
Audits or reviews	<ul> <li>Results of any audits or reviews of sampling techniques and data.</li> </ul>	<ul> <li>Audits by major firms and potential customers have been satisfactory.</li> </ul>

# 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> </ul>	Exploration Licences are listed in this report and all held 100% by ABx4 Pty Limited, a wholly owned subsidiary of Australian Bauxite Limited and free of 3 <sup>rd</sup> party encumbrances, joint ventures, royalties, native title, historical sites, wilderness or national parks or socio-environmental constraints.
	The security of the tenure held at the time of reporting along with any known impediments to obtaining a licence to operate in the area.	<ul> <li>All tenements are in good standing. A licence to operate requires a landholder access agreement, a granted Mining Lease and an acceptable Development Plan and Environmental Management Plan.</li> </ul>
Exploration done by other parties	Acknowledgment and appraisal of exploration by other parties.	The bauxite deposits are new discoveries by ABx using its proprietary exploration technology.
Geology	Deposit type, geological setting and style of mineralisation.	Bauxite formed on Tertiary volcanic tuffs.
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>coordinates of hole collar</li> <li>dip and azimuth of the hole</li> <li>down hole length &amp; interception depth</li> <li>hole length.</li> </ul> </li> </ul>	Material exploration results are reported in the release.



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Criteria	JORC Code explanation	Commentary
	<ul> <li>If the exclusion of this information is justified, the Competent Person should clearly explain why this is the case.</li> </ul>	<ul> <li>The Bauxite deposits have hundreds of holes, thousands of samples &amp; assays; too many data to list in this manner.</li> </ul>
Data aggregation methods	<ul> <li>In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (eg cutting of high grades) and cut-off grades are usually Material &amp; should be stated.</li> </ul>	<ul> <li>Uncut assays used due to normal distribution.</li> <li>Cut-off grades are documented in the report, including 30% available Al2O3 for screened samples.</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.</li> </ul>	<ul> <li>Not applicable: simple length weighting of standard 1 metre long samples grading above the cut-off grades is used.</li> </ul>
	Metal equivalent value assumptions.	None used.
Relationship between	These relationships are particularly important in the reporting of Exploration Results.	<ul> <li>Intercept length down hole equals the bauxite mineralisation true width.</li> </ul>
mineralisation widths and intercept lengths	<ul> <li>If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.</li> </ul>	<ul> <li>Holes are vertical and the bauxite is horizontal geometry.</li> </ul>
leriguis	<ul> <li>If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect.</li> </ul>	<ul> <li>Not applicable: bauxite mineralisation is horizontal; perpendicular to the vertical holes.</li> </ul>
Diagrams	<ul> <li>Appropriate maps &amp; sections (with scales) &amp; 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 &amp; appropriate sectional views.</li> </ul>	Summarised maps are shown in the report.
Balanced reporting	<ul> <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>Summarised in the report, with examples shown as appropriate.</li> </ul>
Other substantive exploration data	Other exploration data, if meaningful & material, (but not limited to): geological observations; geophysical survey results; geochemical survey results; bulk samples – size & method of treatment; metallurgical test results; bulk density, groundwater, geotechnical & rock characteristics; potential deleterious or contaminating substances.	Material exploration data included in the report.
Further work	Nature & scale of planned further work.	Summarised in the report.
	<ul> <li>Diagrams clearly highlighting areas of possible extensions, including the main geological interpretations &amp; future drilling areas.</li> </ul>	Summarised in the report except where commercially sensitive.

# Section 3 Estimation & Reporting of Mineral Resources

Criteria	JORC Code explanation	Commentary
Database integrity	<ul> <li>Measures taken to ensure data has not been corrupted by, for example, transcription or keying errors, between its initial collection &amp; its use for Mineral Resource estimation purposes.</li> </ul>	• •
	Data validation procedures used.	<ul> <li>Lab data entered electronically &amp; signed-off. Written logs &amp; sample photos also in database</li> </ul>
Site visits	Comment on any site visits undertaken by the Competent Person & outcome of those visits.	<ul> <li>Competent persons visits at discovery, mapping, drilling, bulk sampling &amp; mining. All satisfactory.</li> </ul>
	If no site visits, why.	All sites visited
Geological interpretation	Confidence in (or conversely, the uncertainty of) the geological interpretation of the mineral deposit.	<ul> <li>Geology is simple strata. Drillholes determine degree of variation, especially where concealed by soil or covering layers.</li> </ul>
	Nature of the data used & of any assumptions made.	Outcrops mapped & sampled. Drillholes complete the subsurface mapping.
	Effect, if any, of alternative interpretations on Mineral Resource estimation.	Outlines can vary estimate by 10% to 15% so we do 2 different methods to double-check
	The use of geology in guiding & controlling	Method 1 = geological model outlines



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	Mineral Resource estimation.	Method 2 = voronoi polygon statistics
	<ul> <li>Factors affecting continuity both of grade &amp; geology.</li> </ul>	<ul> <li>Continuity is assumed to be semi random or highly variable, as is normal for bauxite</li> </ul>
Dimensions	<ul> <li>Extent &amp; variability of the Mineral Resource expressed as length (along strike or otherwise), plan width, &amp; depth below surface to the upper &amp; lower limits of Mineral Resource.</li> </ul>	to 2km strike. Dissected by erosion channels. Bauxite thickness varies from 1 to 14 metres. Overburden varies from 0 to 4m.
Estimation & modelling techniques	<ul> <li>Nature &amp; appropriateness of estimation technique(s) applied &amp; key assumptions, including treatment of extreme grade values, domaining, interpolation parameters &amp; maximum distance of extrapolation from data points. If a computer assisted estimation method was chosen include a description of computer software &amp; parameters used.</li> <li>Availability of check estimates, previous</li> </ul>	geological boundaries. Thickness set by intercepts in holes. Grades interpolated Gemcom software by inverse distance squared methods. Search ellipse 250m along strike by 150m.  • Method 2: each drill sample is allocated an area half way to next holes, to a limit of 50 metres. Tonnage is density x area x sample length. Samples meeting grade cutoffs accumulated by tonnage weighting. Good correlation with Method 1.  • Method 3 – sectional polygonal – good correlation with 1 & 2
	estimates &/or mine production records & whether the Mineral Resource estimate takes appropriate account of such data.	estimations after additional drilling.  Moderate correlation between mined results & drill estimates – usually mined yields are higher.
	<ul> <li>The assumptions made regarding recovery of by-products.</li> </ul>	Viability not dependent on by-products.
	<ul> <li>Estimation of deleterious elements or other non-grade variables of economic significance</li> </ul>	which is the main deleterious element.
	<ul> <li>In the case of block model interpolation, the block size in relation to the average sample spacing &amp; the search employed.</li> </ul>	
	<ul> <li>Any assumptions behind modelling of selective mining units.</li> </ul>	<ul> <li>Minimum thickness of 1.25m, 1.5m &amp; 2m to suit ore geometry &amp; depth. Mine has achieved 1.25m</li> </ul>
	Assumptions about correlation between variables.	• Nil
	<ul> <li>Description of how the geological interpretation was used to control the resource estimates.</li> </ul>	
	<ul> <li>Discussion of basis for using or not using grade cutting or capping.</li> </ul>	<ul> <li>Bauxite grades are major elements &amp; normally distributed without outliers : best left uncut.</li> </ul>
	<ul> <li>Process of validation, checking process used, comparison of model data to drill hole data, &amp; use of reconciliation data if available.</li> </ul>	Holes compare well with twinned holes, pit samples & reasonably well with mine results.
Moisture	<ul> <li>Whether the tonnages are estimated on a dry basis or with natural moisture, &amp; the method of determination of the moisture content.</li> </ul>	
Cut-off parameters	The basis of the adopted cut-off grade(s) or quality parameters applied.	• For Cement-Grade bauxite, cut-offs are applied so as to meet cement-grade sales contract terms for the raw ore in-situ (screening to sizings that suit each customer would be introduced during production). For Metallurgical bauxite, the mine & pits experience shows that screened silica is best for first selection of ore, then refined by alumina +30%.
Mining factors or assumptions	<ul> <li>Assumptions made regarding possible mining methods, minimum mining dimensions &amp; internal (or 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 &amp; 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>Screen performance results to date suggest yields of bauxite will range between 65% &amp; 75%</li> <li>Mining &amp; screening are less than 10% of costs (logistics +90%) so exact estimations of yields are not as important as logistics and grades of products.</li> <li>All subgrade bauxite treated as overburden or internal</li> </ul>
Metallurgical factors or assumptions	<ul> <li>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</li> </ul>	bauxite will range between 65% & 75% - possibly higher for Cement Grade.  • Mining & screening are less than 10% of costs



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	metallurgical treatment processes & parameters made when reporting Mineral Resources may no always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the metallurgical assumptions made.	than logistic costs & product grade predictions.  Production yields tend to exceed laboratory wet
Environmental factors or assumptions	• Assumptions made regarding possible waste of process residue disposal options. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to conside the potential environmental impacts of the mining of 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 beer considered this should be reported with an explanation of the environmental assumptions.	exhausted pit areas. Bauxite is widely used because it is chemically benign.  Soils over bauxite are invariably dry and thin but are easily reinstated immediately a pit is exhausted and reformed.  Area selection criteria is to be free of socioenvironmental constraints. ABx gets environmental clearances before any drilling.  Land access agreements are in place for all near-term
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 &amp; representativeness of the samples.</li> </ul>	methods from bulk pit samples  Broken density & stowage factors for transport, plus
	The bulk density for bulk material must have been measured by methods that adequately account for void spaces (vugs, porosity, etc) moisture & differences between rock & alteration zones within the deposit.	<ul><li>precise channels, drying &amp; weighing.</li><li>9 diamond drill cores measured and weighed dry</li></ul>
	<ul> <li>Assumptions for bulk density estimates used in evaluation of the different materials.</li> </ul>	<ul> <li>No assumptions. ABx uses measured densities.</li> </ul>
Classification	The basis for the classification of the Minera Resources into varying confidence categories.	<ul> <li>Method 1: number of data points per block</li> <li>Method 2: nearness to next holes (50m max)</li> <li>Method 3: 25m max distance from drillhole for Indicated Resources, 45m for Inferred Resources</li> </ul>
	<ul> <li>Whether appropriate account has been taken of al relevant factors (ie relative confidence ir tonnage/grade estimations, reliability of input data confidence in continuity of geology &amp; metal values quality, quantity &amp; distribution of the data).</li> </ul>	experience is gained sufficient to correlate resource predictions with actual production outcomes. Data
	Whether the result appropriately reflects the Competent Person's view of the deposit.	<ul> <li>Estimation results appropriately reflects Competent Persons' views of deposits</li> </ul>
Audits or reviews	<ul> <li>Results of any audits or reviews of Minera Resource estimates.</li> </ul>	
Discussion of relative accuracy/ confidence	Where appropriate a statement of the relative accuracy & 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 & confidence of the estimate.	checks of estimates to be satisfied with results from Method 1 (geostatistical block modelling) & Method 2 (voronoi polygon estimation).  Competent Persons have signed approvals for publicly released resource reports.  No objections to date & comments are welcomed
	<ul> <li>Statement should specify whether it relates to global or local estimates, &amp;, if local, state the relevant tonnages which should be relevant to technical &amp; economic evaluation. Documentation should include assumptions made &amp; the procedures used.</li> </ul>	• Each 25m x 25m block in Method 1 (geostatistical block modelling) is individually estimated locally
	<ul> <li>Statements of relative accuracy &amp; confidence of the estimate should be compared with production data, where available.</li> </ul>	