



# METALLICA MINERALS LIMITED

## INVESTOR PRESENTATION MINING 2015 CONFERENCE

12 November 2015



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The **Cape York Heavy Mineral Sands (HMS) and Bauxite (Bx) Projects, Esmeralda Graphite and the SCONI Scandium-Cobalt-Nickel Project**, are at the exploration, advanced evaluation & feasibility stage & although reasonable care has been taken to ensure that the facts stated in this presentation are accurate & or that the opinions expressed are fair & reasonable, no reliance can be placed for any purpose whatsoever on the information contained in this document or on its completeness.

Actual results & developments of projects and market development may differ materially from those expressed or implied by these forward looking statements depending on a variety of factors.

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**Forward-looking statements** are based on assumptions regarding Metallica Minerals Limited ("Metallica"), business strategies, plans and objectives of the Company for future operations and development and the environment in which the Metallica may operate.

Forward-looking statements are based on current views, expectations and beliefs as at the date they are expressed and which are subject to various risks and uncertainties. Actual results, performance or achievements of Metallica could be materially different from those expressed in, or implied by, these forward-looking statements. The forward-looking statements contained in this presentation are not guarantees or assurances of future performance and involve known and unknown risks, uncertainties and other factors, many of which are beyond the control of Metallica, which may cause the actual results, performance or achievements of Metallica to differ materially from those expressed or implied by the forward-looking statements. For example, the factors that are likely to affect the results of Metallica include general economic conditions in Australia and globally; ability for Metallica to fund its activities; exchange rates; production levels or rates; demand for Metallica's products, competition in the markets in which Metallica does and will operate; and the inherent regulatory risks in the businesses of Metallica. Given these uncertainties, readers are cautioned to not place undue reliance on such forward looking statements.

- The **Urquhart Point HMS Project** is at an advanced feasibility and development stage and reasonable care has been taken to ensure that the facts stated in this announcement are accurate and or that the opinions expressed are fair and reasonable. However, actual results may differ materially from those expressed or implied by these forward looking statements depending on a variety of factors.
- A key conclusion of the **Feasibility Study (FS)** which is based on forward looking statements is that the Urquhart HMS Project is considered to have positive economic potential and project development funding has been through a Joint Venture with Ozore Resources.

**Technical information** contained in this report has been compiled by Metallica Minerals Non-Executive Director Mr Andrew Gillies B.Sc. & M. AUSIMM, who is a **competent person** & a member of the Australasian Institute of Mining & Metallurgy & have relevant experience to the mineralisation being reported on to qualify as Competent Persons as defined by the Australasian Code for Reporting of Minerals Resources & Reserves. Mr Gillies consents to the inclusion in this presentation of the matters based on the information in the form & context in which it appears.

**\*Exploration Target** - The potential quantity and grade of the bauxite deposits are conceptual in nature. There is insufficient information at this time to define a mineral resource and there is no certainty that further exploration will result in the determination of a mineral resource in these areas.

For further detailed information on the content of this presentation please also refer to the following ASX Releases dated: 20 May, 17 June & 24 June & 11 July, 1 & 27 August, 29 & 30 September, Annual Report 6 October, 25 November, 3 December 2014. 21 January, 3 and 26 February, 7 April, Quarterly Report 30 April, 11 May, 17 & 25 June, 9, 15 & 28 July, Quarterly Report 29 July, 15, 21, 28 September, 6 October and, 5 November 2015



# Highlights

- Developing the Urquhart Direct Shipping Bauxite Project
- Spectacular graphite intersections at the 100% owned Esmeralda Graphite Project
  - WD001 – 120 m mineralised intercept ending in mineralisation<sup>1</sup>
  - WD002 – 1.2 km from WD001 initial results pending
- Urquhart HMS Plant is now in transit to Australia—decision to develop delayed until after the wet season
- Monetising non-core assets—\$870,000<sup>2</sup> received in the past 6 months
- Tight capital structure with no debt
- Look beyond our historic Queensland base to take advantage of the cycle and grow through identifying and securing advanced and value-adding projects

Clear focus of generating cash flow coupled with upside potential

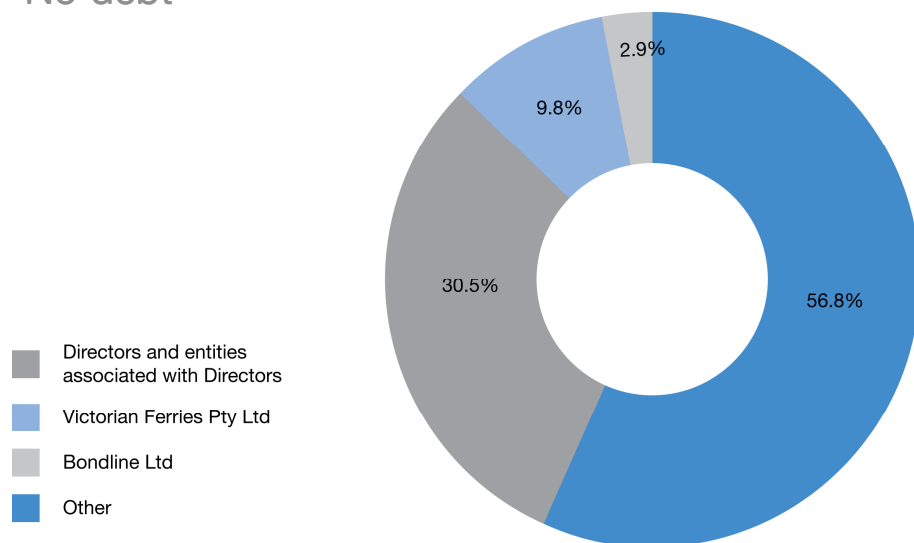


# Corporate Snapshot

## Capital Structure

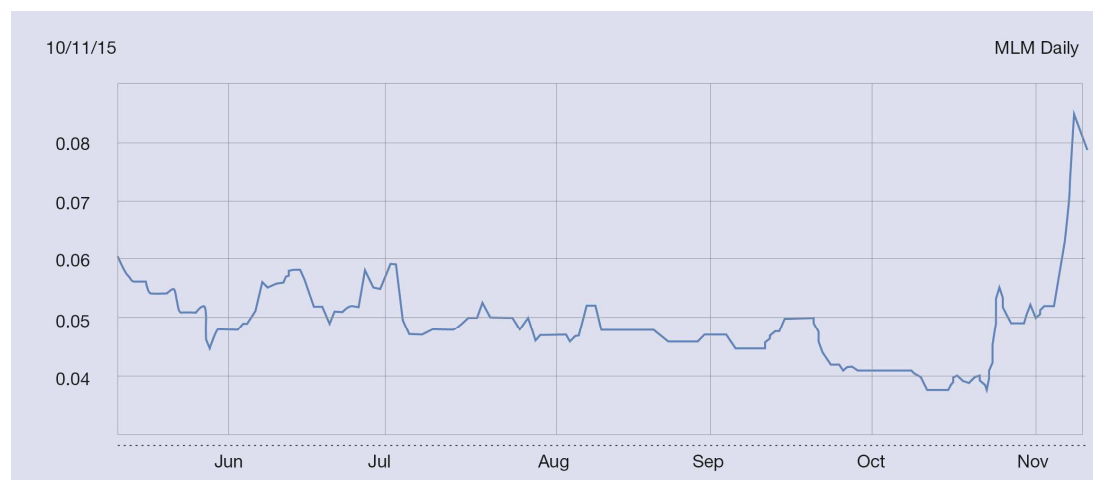
Shares on issue	166.9m
Options on issue	6m
Share price (11 November 2015)	A\$0.082
Market capitalisation	A\$13.7m
Cash at 30 Sept 2015	A\$1.4m

No debt



## Board and Management

Barry Casson	Non-Executive Chairman
Simon Slesarewich	Chief Executive Officer
Andrew Gillies	Non-Executive Director
Shu Wu	Non-Executive Director
Shu Zhang	Alternate Non-Executive Director
John Haley	CFO I Company Secretary

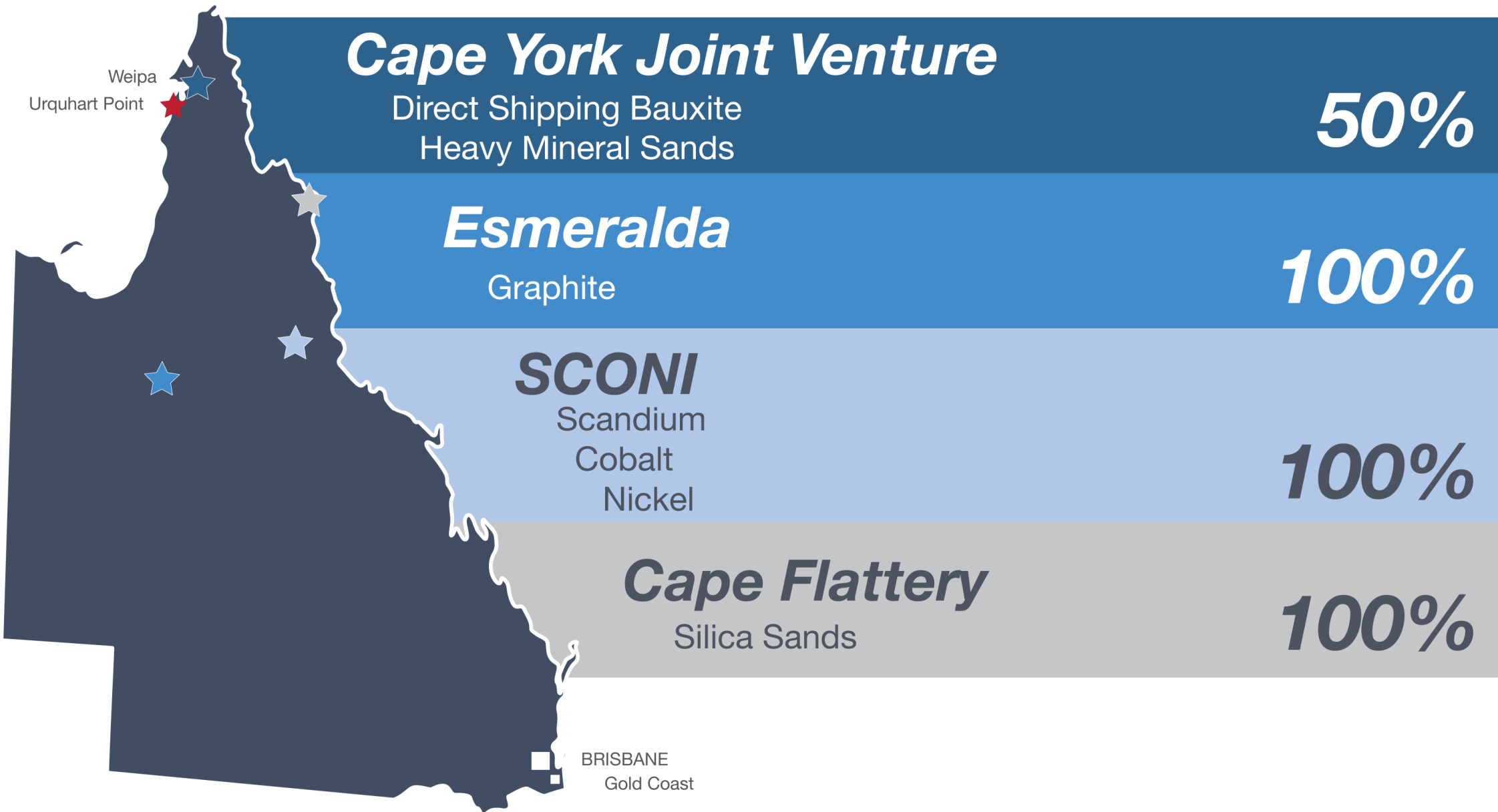


Metallica listed on the ASX in 2004 with 61.9m shares on issue and still holds a very tight capital structure





## Project Overview





# Cape York HMS & Bauxite Project JV

Three separate project components:

## Urquhart Bauxite Project

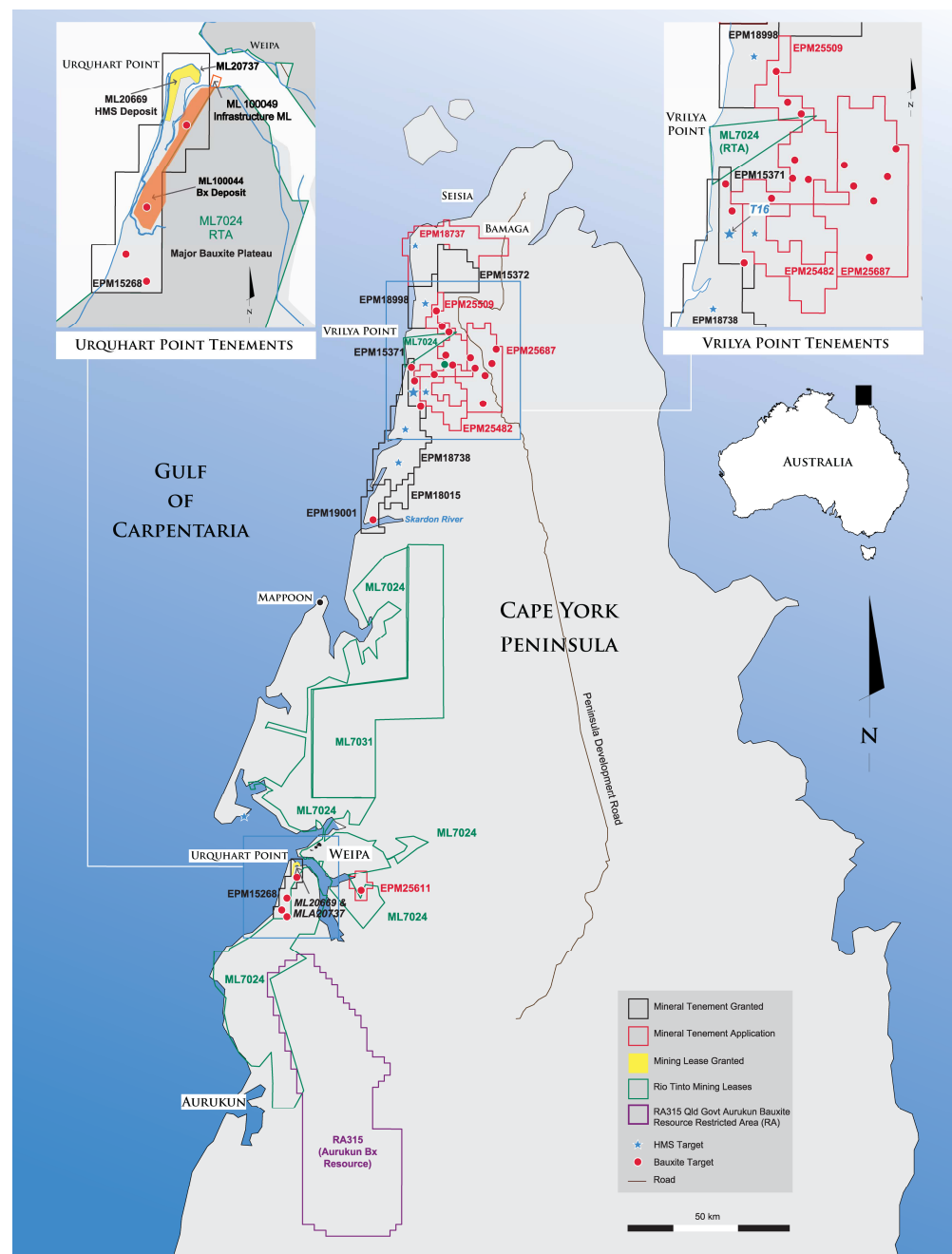
- Current focus

## Urquhart HMS Project

- HMS plant currently in transit to Australia
- Reviewing development scenario to maximise value

## Regional HMS & Bauxite Project

- Over 1,257 km<sup>2</sup> tenements held which cover many HM sand and laterite bauxite targets
- Contains a large (42 Mt – 128 Mt) bauxite Exploration Target





# Low Temperature Bauxite Is In Demand

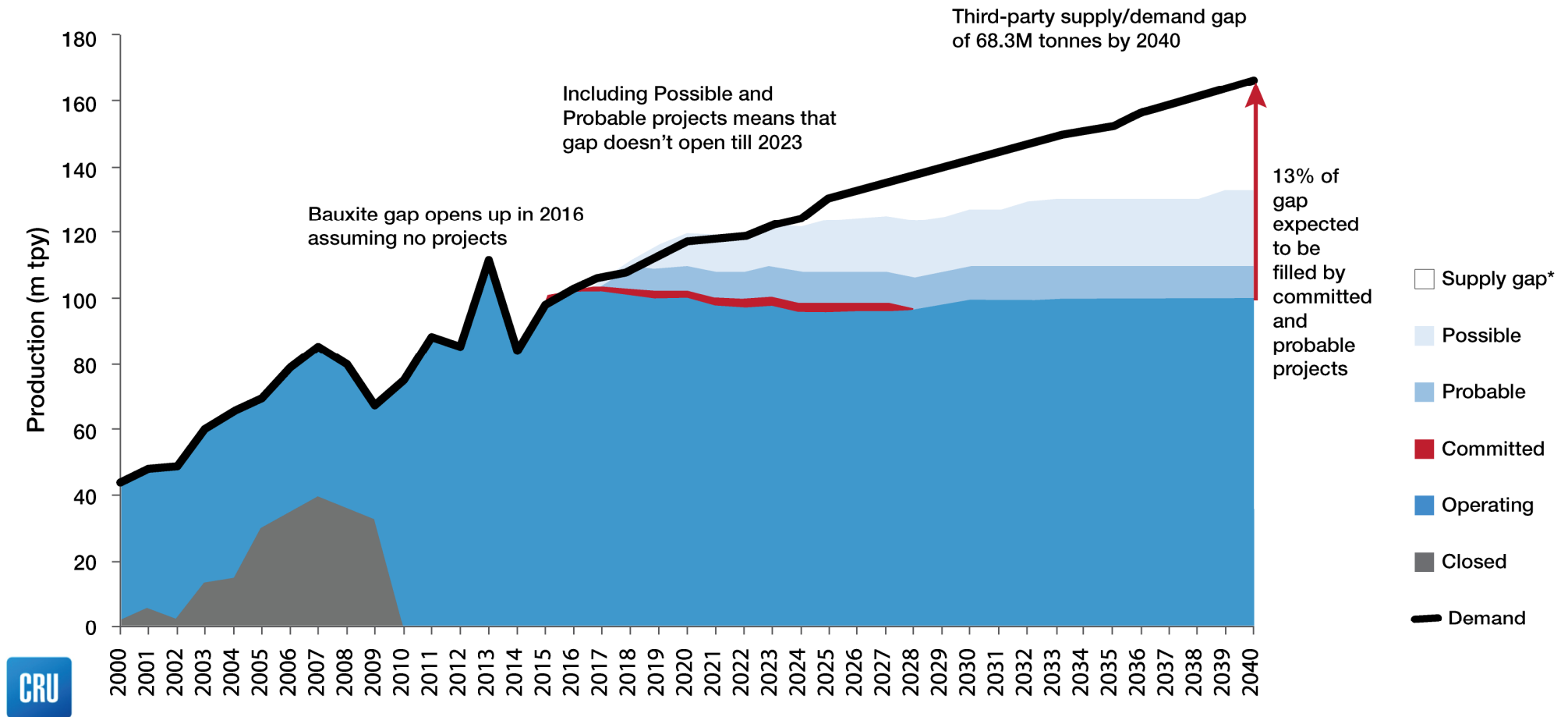
- Forecast 68 Mtpa shortfall in supply of low temperature bauxite by 2040<sup>1</sup>
- Initial supply shortfall in 2016
- Low temperature bauxite market undersupplied in the medium to long term
- China's largest refineries are designed to accept low temperature bauxite but China predominantly produces high temperature bauxite
- Bauxite has decoupled from the alumina and aluminium pricing as new refining and smelting capacity is not integrated with dedicated mining operations
- Indonesian ban of raw exports removed ~40 Mtpa from the global bauxite market
- Malaysia has stepped up and commenced exporting bauxite to China. However, Malaysian supply response could be short-lived
- In 2014–15, China imported only 39 Mt (nil from Indonesia), but needs more than 65 Mt of imported bauxite per year, rising even higher to more than 75 Mt in the next 5 years to feed its rapidly growing aluminium industry.



# Imports into China

## Strong growth in Chinese third party bauxite demand to result in a supply-demand gap opening after 2016

World third party bauxite balance, 2000-2040



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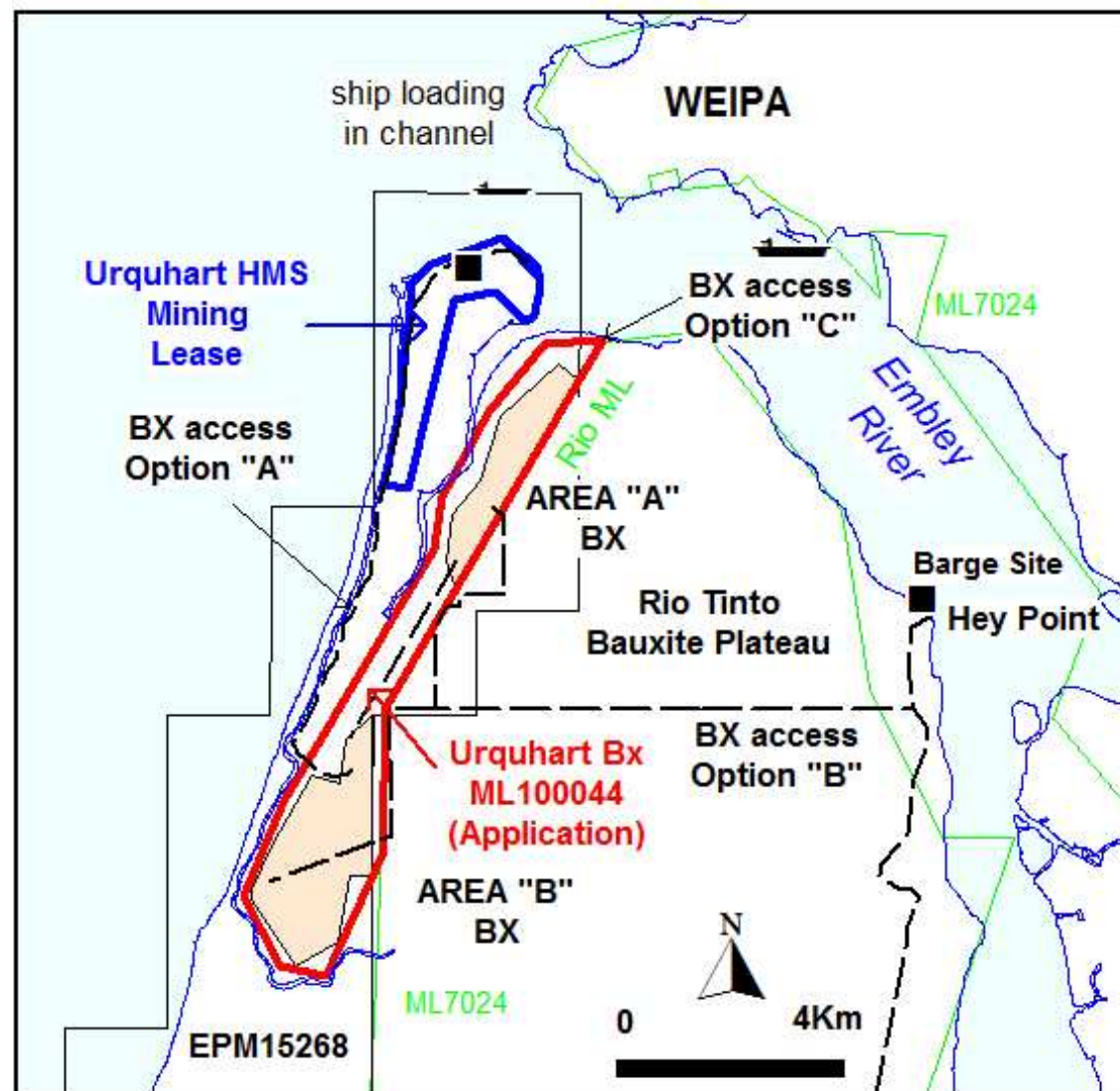
Many new sources of supply are needed!



# Urquhart Bauxite Project

## Why do we like Urquhart Bauxite?

- Simple 1.5 – 2 Mtpa development
- Positive in-house scoping study
- Modest capex and simple development scenario
- Ideally located near deep water
- Various options for a simple trans-shipping operation
- Well-known and accepted low temperature bauxite product
- Strong supply and demand fundamentals
- Proven ability to secure approvals via Urquhart Point HMS mining lease







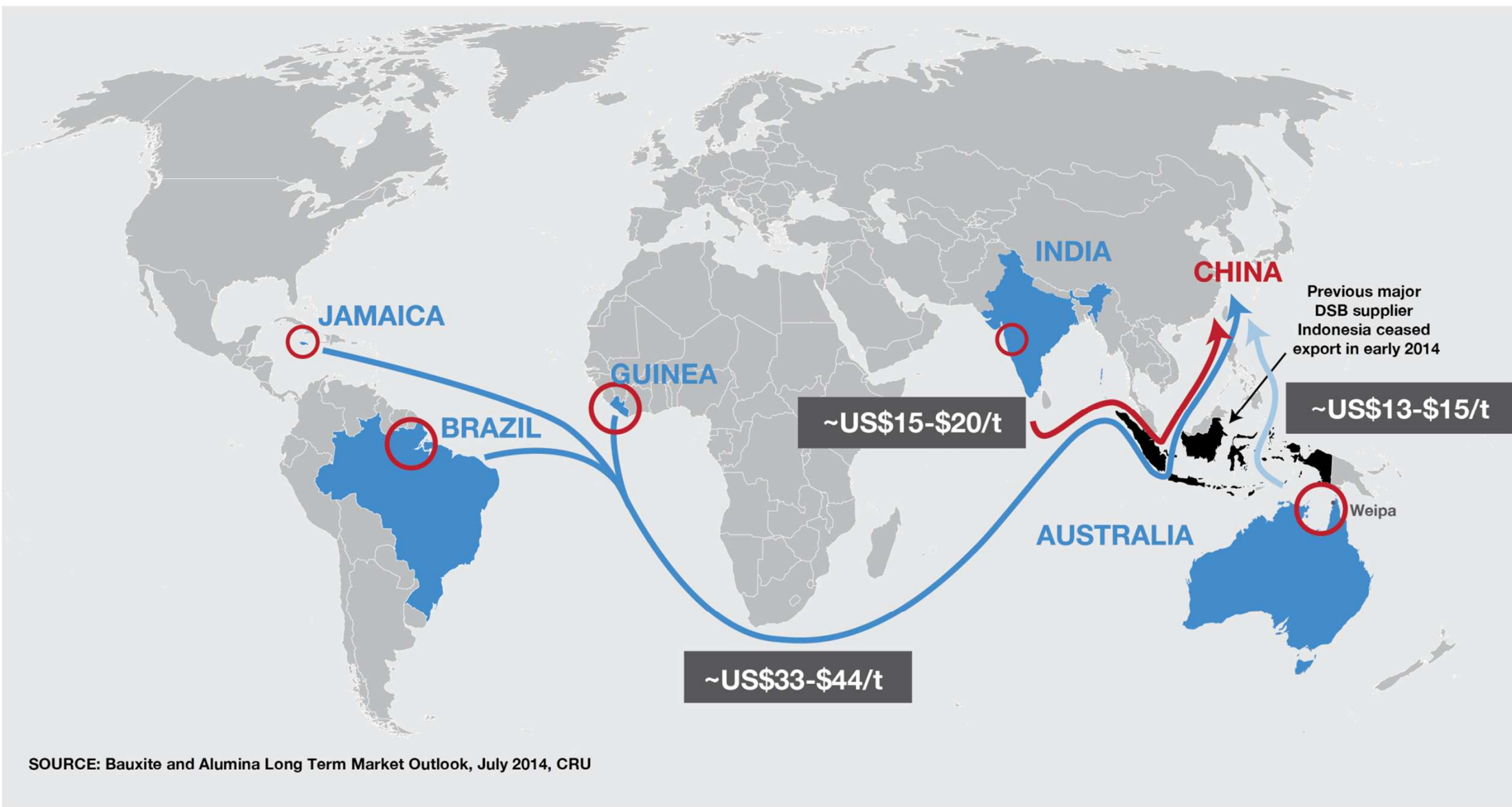
# Ideal Logistics

- Bulk commodities is all about logistics
- Ideal location for simple barge to ship export operation with three options being considered:
  - North Jetty (2 km)
  - Hey Point (16 km)
  - Urquhart Point (16 km)





# Logistics Advantage



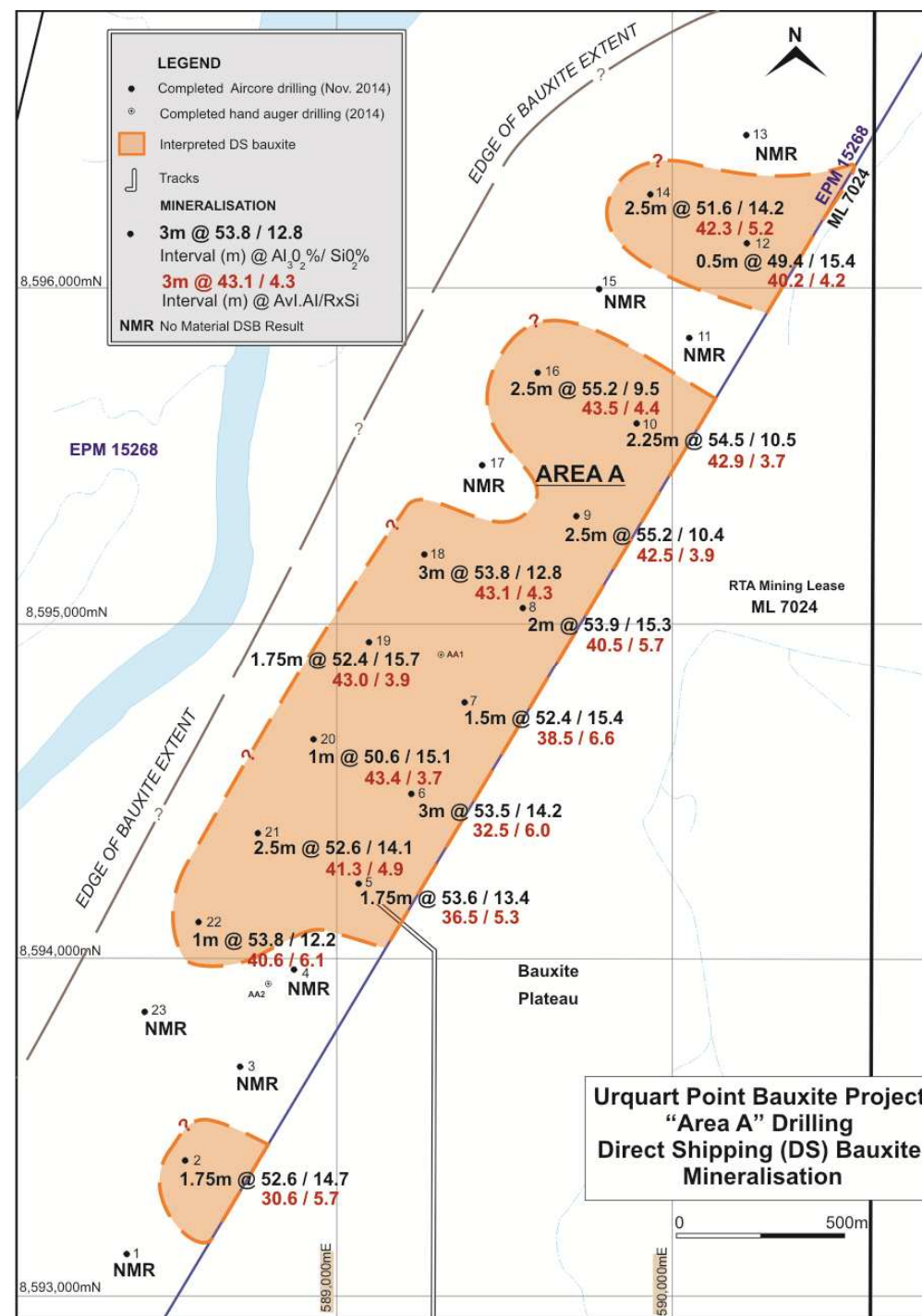
Western Cape York bauxite is located close to the coast and international shipping, lowering operating and transport costs, with ready access to ship-borne trade to China or the Middle East





# Urquhart Bauxite

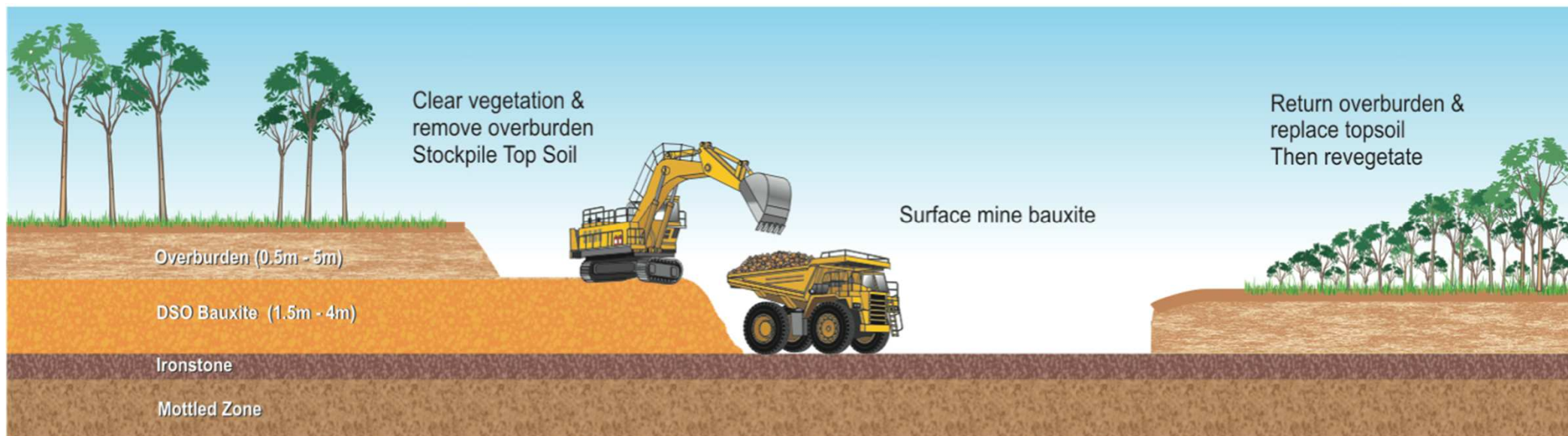
- Good quality and readily saleable into the seaborne market
  - 40.6% AAI and 4.9% RSi<sup>1</sup>
- Maiden JORC-compliant Inferred Resource released<sup>1</sup>
  - 7.5 Mt @ 51% Al<sub>2</sub>O<sub>3</sub>, 16.3% SiO<sub>2</sub>
- Direct Shipping Bauxite (DSB) with average thickness of ~2 m
- Low temperature DSB confirmed<sup>1</sup>
- Mining Lease Application lodged<sup>2</sup>
- Environmental studies currently underway
- Pathway to early 2017 development production<sup>3</sup>







# Simple Development



- 1.5–2.0 Mtpa mine-truck-barge-ship operation
- Proximity to the established mining town of Weipa
- Expected low operating costs coupled with low capital requirements
- Ability to lock in costs near the bottom of the cycle



Example of barge transhipment



**ASX:MLM** Note: Timing of production is subject to receiving approvals in the expected timeframe and securing funding for the project



# Regional HMS & Bauxite Potential

- 1,257 km<sup>2</sup> prospective tenure along 300 km coastal belt
- Exploration Target\* 42–128 Mt Bauxite identified at Vrilya Point 70 km north of Weipa (see table below)
- Underexplored regional exploration with many other existing HMS and obvious bauxite targets



Project	Permit	Discrete Targets	In situ mineralization tonnage range <sup>2</sup> Mt	Total Al <sub>2</sub> O <sub>3</sub> % <sup>3</sup>	Total SiO <sub>2</sub> % <sup>3</sup>
Vrilya	EPM15371	3	2 to 6	40-47	Insufficient data <sup>1</sup>
Vrilya	EPMA25509	7	12 to 36	40-48	10 to 191
Vrilya East	EPMA25687	3	28 to 86	40-43	Insufficient data <sup>1</sup>
	<b>Total</b>	<b>13</b>	<b>42 to 128</b>		

\***Exploration Target** - The potential quantity and grade of the bauxite deposits are conceptual in nature. There is insufficient information at this time to define a mineral resource and there is no certainty that further exploration will result in the determination of a mineral resource in these areas.

<sup>1</sup> previous exploration reports SiO<sub>2</sub> data incomplete

<sup>2</sup> range based on measured areas of target plateaus, minimum thickness of >0.5m bauxite, estimated average thickness of 1.5m from previous exploration data and bulk density value of 1.5

<sup>3</sup> based on screened sample assay results





# Esmeralda Graphite

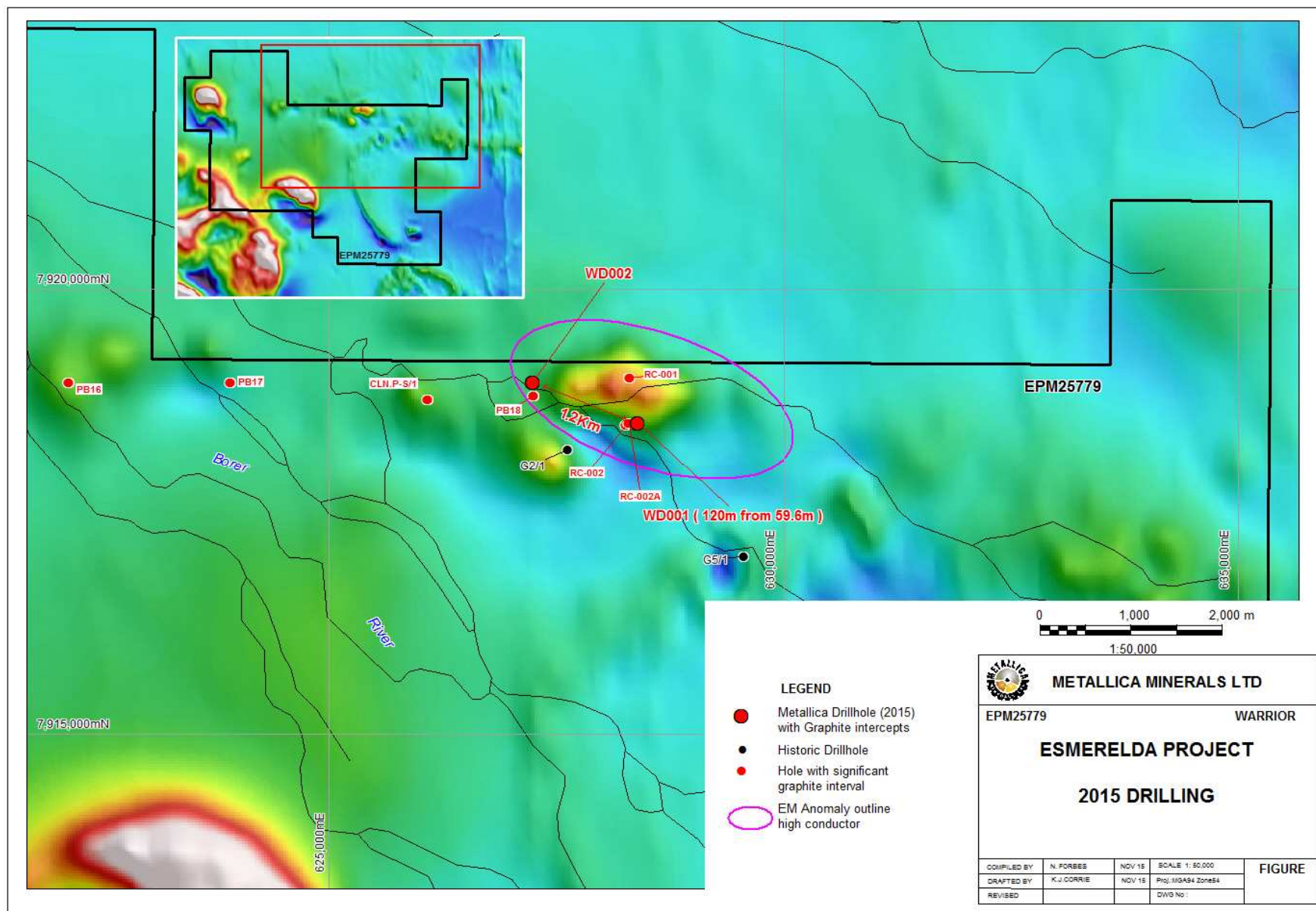
- Spectacular graphite intersections at the 100% owned Esmeralda Graphite Project
  - WD001 – 120 m mineralised intercept ending in mineralisation<sup>1</sup>
  - WD002 – 1.2 km from WD001 initial results pending
- Focused on the rare and high purity crystalline graphite in granite similar to deposits in Sri Lanka and the Albany Project in Canada
- Potentially very large and world leading deposit
- Assays expected late November with metallurgical test work to follow







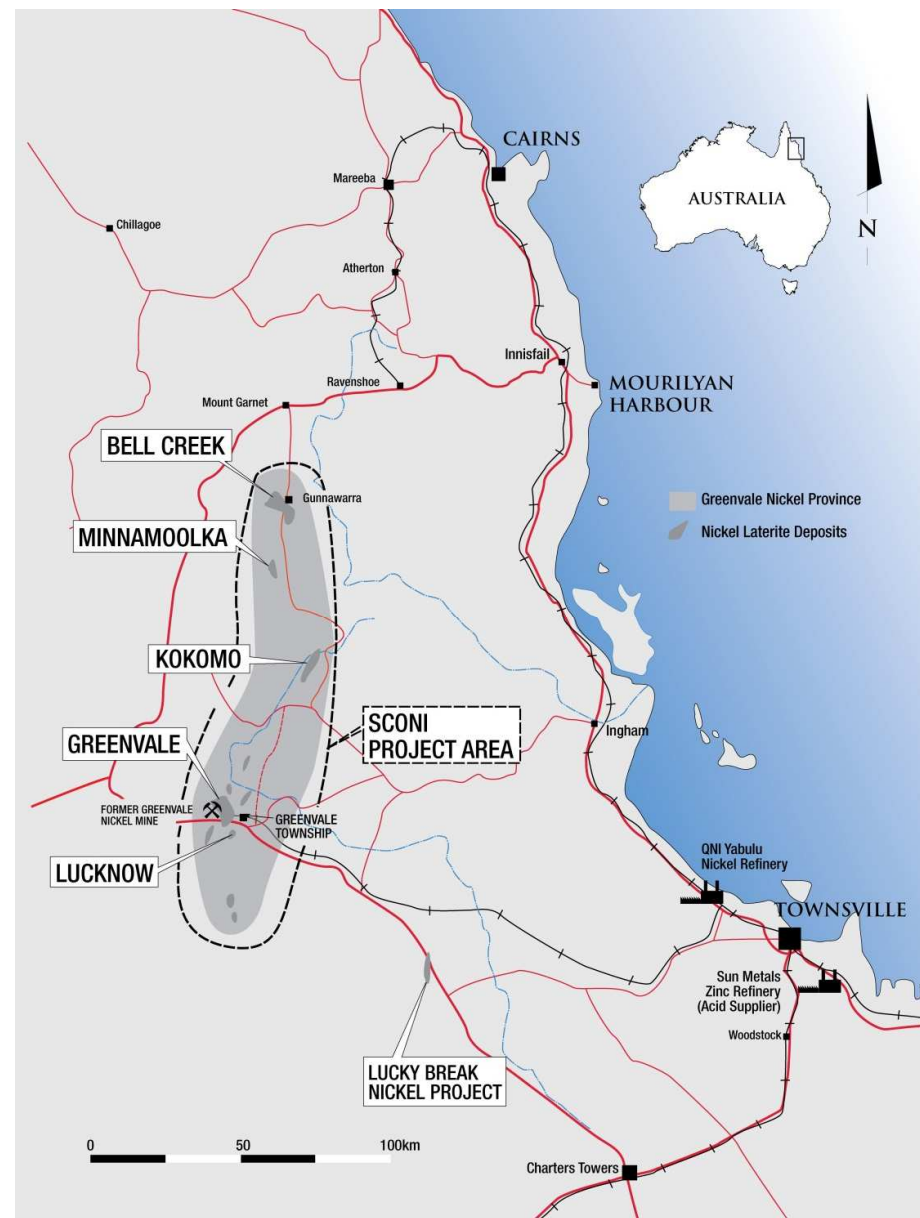
# Esmeralda Graphite





# SCONI Nickel-Cobalt-Scandium Project -100% MLM

- Ideal location – historical Greenvale nickel mine
- Established JORC Resources<sup>1</sup>
- Close proximity to industrial services Townsville and Mourilyan Ports
- Good metallurgical ore types
- Metallica-owned Scandium IP recovery and purification technology
- Low environmental impact and strong community support
- Currently in negotiations for a JV





## Where To From Here

- Continue to progress the Urquhart Direct Shipping Bauxite Project to become one of Australia's newest bauxite producers accessing the Asia-Pacific Basin
- Pursue the potential game changing and unique graphite in granite Esmeralda Graphite Project
- Realise value from non-core assets
- Look to secure a joint venture partner for SCONI
- Look beyond our historic Queensland base to take advantage of the cycle and grow through identifying and securing advanced and value-adding projects

Clear focus of generating cash flow coupled with upside potential





#### **SUBSIDIARY COMPANIES**

NORNICO Pty Ltd ACN 065 384 045

Oresome Australia Pty Ltd ACN 071 762 484

Oresome Bauxite Pty Ltd ACN 606 362 252

Lucky Break Operations Pty Ltd ACN 126 272 580

Phoenix Lime Pty Ltd ACN 096 355 761

Greenvale Operations Pty Ltd ACN 139 136 708

Scandium Pty Ltd ACN 138 608 894

Touchstone Resources Pty Ltd ACN 126 306 018

# THANK YOU





## Appendix 1 – Resource Tables



# RESOURCE TABLES

## URQUHART POINT HMS RESOURCE ESTIMATE

### GLOBAL MINERAL RESOURCE – 0% HM COG

Resource Category	Tonnes (t)	HM %	HM tonnes	OS %	Slimes %	Zircon %	Rutile %	Ilmenite %
Measured	1,945,360	6.92	134,529	13.83	1.07	10.2	12.5	12.5
Indicated	1,365,440	4.60	62,746	15.33	1.15	11.4	10.9	13.2
<b>Total</b>	<b>3,310,800</b>	<b>5.96</b>	<b>197,275</b>	<b>14.45</b>	<b>1.11</b>	<b>10.6</b>	<b>12.0</b>	<b>12.7</b>

### MINERAL RESOURCE CONSTRAINED BY MINING LEASE & ENVIRONMENTAL BUFFERS – 0% HM COG

Resource Category	Tonnes (t)	HM %	HM tonnes	OS %	Slimes %	Zircon %	Rutile %	Ilmenite %
Measured	1,882,960	6.57	123,716	14.17	1.07	9.7	12.0	12.4
Indicated	1,345,840	4.60	61,930	15.41	1.16	11.4	10.9	13.2
<b>Total</b>	<b>3,228,800</b>	<b>5.75</b>	<b>185,646</b>	<b>14.68</b>	<b>1.11</b>	<b>10.3</b>	<b>11.6</b>	<b>12.7</b>

### MINERAL RESOURCE CONSTRAINED BY MINING LEASE & ENVIRONMENTAL BUFFERS – 2% HM COG

Resource Category	Tonnes (t)	HM %	HM tonnes	OS %	Slimes %	Zircon %	Rutile %	Ilmenite %
Measured	1,781,360	6.85	122,090	12.46	1.03	9.8	12.0	12.4
Indicated	1,305,680	4.70	61,335	14.44	1.15	11.4	10.9	13.2
<b>Total</b>	<b>3,087,040</b>	<b>5.94</b>	<b>183,425</b>	<b>13.30</b>	<b>1.08</b>	<b>10.3</b>	<b>11.6</b>	<b>12.7</b>

### COMPETENT PERSON STATEMENT

The information in this report that relates to Mineral Resources Estimation for the Urquhart Point Project is based on information compiled and reviewed by Mr Simon Coxhell. Mr Coxhell is a consultant to the Company and a member of the Australasian Institute of Mining and Metallurgy. Mr Coxhell has sufficient experience relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking to qualify as Competent Person as defined in the 2012 edition of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (JORC Code). Mr Coxhell consents to the inclusion in this report of the matters based on this information in the form and context in which it appears.

For further information see ASX Release 20 May 2014.



# RESOURCE TABLES

## URQUHART POINT HMS RESERVE ESTIMATE

### ORE RESERVE ESTIMATE – 0.90% (ZR + 0.8 RUTILE + 0.31 IL) COG

Ore Resource Category	Tonnes kt	Head Grade						HM tonnage & Mineral Assemblage			
		HM %	OS %	Slimes %	Zr %	Rt %	Il %	HM kt	Zr % of HM	Rt % of HM	Il% of HM
Proved	967	10.6	8.1	1.0	1.2	1.4	1.4	102	11.1	13.7	12.9
Provable	210	4.8	6.7	1.2	0.9	0.6	0.7	10	17.7	13.2	14.4
<b>Total</b>	<b>1,177</b>	<b>9.5</b>	<b>7.9</b>	<b>1.0</b>	<b>1.1</b>	<b>1.3</b>	<b>1.2</b>	<b>112</b>	<b>11.7</b>	<b>13.6</b>	<b>13.1</b>

#### NOTE

1. The Ore Reserves are based on the following forecast long term FOB prices: Zircon \$1,500/t, Rutile US\$1,200/t and Ilmenite US\$200/t.
2. Ore Reserves are based on a Zircon Equivalent cut-off grade of 0.90%.
3. Zircon Equivalent = Zircon % + 0.8 x Rutile % + 0.13 x Ilmenite %. Recoveries used in the equivalence calculation are 98.2%, 98.0% and 95.8% for Zircon, Rutile and Ilmenite respectively.
4. The HMS Reserves have been independently estimated by consultants IMC Mining Pty Ltd.
5. For further information see ASX Release on Maiden Independent Ore Reserve for Urquhart Point HMS Project dated 24 June 2014.

#### COMPETENT PERSONS STATEMENT

The information in this report that relates to Ore Reserves is based on information compiled by François Bazin of IMC Mining Pty Ltd, a Competent Person who is a Chartered Professional Member of The Australasian Institute of Mining and Metallurgy.

Mr François Bazin has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the activity being undertaken 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. François Bazin consents to the inclusion in the report of the matters based on his information in the form and context in which it appears. François Bazin is a consultant to Metallig Minerals Limited and Oresome Australia Pty Ltd.



# RESOURCE TABLES

## URQUHART BAUXITE RESOURCE ESTIMATES

### URQUHART DSB RESOURCE STATEMENT DETAILS – 45% $\text{Al}_2\text{O}_3$ COG

Area	DSB (in-situ)			Screened 1.2 mm			
	Kt	$\text{Al}_2\text{O}_3$ %	$\text{SiO}_2$ %	Kt^	Yield %	$\text{Al}_2\text{O}_3$ %	$\text{SiO}_2$ %
A	5,121	52.0	15.0	3,769	73.6	56.8	7.0
B	2,366	48.8	19.0	1,505	63.6	54.4	9.3
<b>Total</b>	<b>7,487</b>	<b>51.0</b>	<b>16.3</b>	<b>5,274</b>	<b>70.5</b>	<b>56.1</b>	<b>7.6</b>

^ Recovered tonnage (tonnes x yield) for the same DSB cut-off grade and DSB in-situ dry tonnage

### URQUHART DSB RESOURCE STATEMENT FOR THE LOWER BAUXITE PROFILE

Area	DSB (in-situ)					Screened 1.2 mm			
	Kt	$\text{Al}_2\text{O}_3$ %	$\text{SiO}_2$ %	AAI %	RSi %	Kt^	Yield %	$\text{Al}_2\text{O}_3$ %	$\text{SiO}_2$ %
A	3987	53.3	13.0	40.6	4.9	3037	76.2	57.1	6.7
B	777	52.7	13.2	–	–	486	62.6	56.1	7.0
<b>Total</b>	<b>4764</b>	<b>53.2</b>	<b>13.0</b>	<b>–</b>	<b>–</b>	<b>3523</b>	<b>74.0</b>	<b>56.9</b>	<b>6.7</b>

Tonnages are a subset of those reported in the table above

^ Recovered tonnage (tonnes x yield) for the same DSB cut-off grade and DSB in-situ dry tonnage

AAI = Available alumina  $\text{Al}_2\text{O}_3$

RSi = Reactive Silica  $\text{SiO}_2$

### COMPETENT PERSON STATEMENT

The information in this report that relates to Mineral Resources is based on information compiled by John Horton, Associate of IMC Mining Pty Ltd, who is a Fellow of the Australasian Institute of Mining and Metallurgy and a Member of the Australian Institute of Geoscientists. Mr Horton has sufficient experience that is relevant to the style of mineralisation and the type of deposit under consideration and to the activity which he has undertaken to qualify as a Competent Person as defined in the 2012 edition of the Australasian Code for the Reporting of Exploration Results, Mineral Resources and Ore Reserves. Mr Horton consents to the inclusion in this release of matters based on his information in the form and context in which it appears.

For further information see ASX Release 11 May 2015.



# CAPE YORK JOINT VENTURE

## REGIONAL BAUXITE EXPLORATION TARGETS

### \*EXPLORATION TARGET

The potential quantity and grade of the bauxite deposits are conceptual in nature. There is insufficient information at this time to define a mineral resource and there is no certainty that further exploration will result in the determination of a mineral resource in these areas.

Project	Permit	Discrete Targets	Insitu mineralisation tonnage range Mt <sup>2</sup>	Total Al <sub>2</sub> O <sub>3</sub> % <sup>3</sup>	Total SiO <sub>2</sub> % <sup>3</sup>
Vrilya	EPM15371	3	2 to 6	40–47	insufficient data <sup>1</sup>
Vrilya	EPMA25509	7	12 to 36	40–48	10–19 <sup>1</sup>
Vrilya East	EPMA25687	3	28 to 86	40–43	insufficient data <sup>1</sup>
<b>TOTAL</b>		<b>13</b>	<b>42 to 128</b>		

<sup>1</sup> previous exploration reports SiO<sub>2</sub> data incomplete

<sup>2</sup> range based on measured areas of target plateaus, minimum thickness of >0.5m bauxite, estimated average thickness of 1.5m from previous exploration data and bulk density value of 1.5

<sup>3</sup> based on screened sample assay results

### COMPETENT PERSONS STATEMENT – BAUXITE EXPLORATION PROJECT

The Technical information contained in this report has been compiled and/or supervised by Mr Andrew Gillies B.Sci (Geology) M.Aus.I.M.M (Non-Executive Director of Metallica Minerals Ltd) who is a Competent Person who is a Member of the Australasian Institute of Mining and Metallurgy (M.Aus.I.M.M). Mr Gillies has relevant experience in the mineralisation, exploration results, Exploration Targets and Resources estimates being reported on to qualify as Competent Person as defined in the 2012 Edition of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves. Mr Gillies consents to the inclusion of this information in the form and context in which it appears in this release.

The information in this report that relates to Exploration Results and Exploration Targets is based on information compiled by John Cameron (a geologist of over 25 years experience), and a Competent Person who is a Member of the Australasian Institute of Mining and Metallurgy and a contract consultant to Metallica Minerals Ltd. Mr Cameron has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity being undertaken to qualify as Competent Person as defined in the 2012 Edition of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves. Mr Cameron consents to the inclusion of this information in the form and context in which it appears in this report.



# RESOURCE TABLES

## SCONI NORTHERN DEPOSITS NI-CO RESOURCE STATEMENTS

COG NICKEL EQUIVALENT = 0.7% (NI + 1.5 CO)

Description	Tonnes Mt	Ni %	Co %	Ni Metal kt	Co Metal kt
<b>BELL CREEK SOUTH</b>					
Measured	7.8	0.96	0.07	75.5	5.1
Indicated	0.1	0.81	0.05	1.2	0.1
<b>Totals</b>	<b>8</b>	<b>0.96</b>	<b>0.06</b>	<b>76.7</b>	<b>5.2</b>
<b>BELL CREEK NORTH</b>					
Indicated	2	0.86	0.03	16.8	0.5
<b>Totals</b>	<b>2</b>	<b>0.86</b>	<b>0.03</b>	<b>16.8</b>	<b>0.5</b>
<b>BELL CREEK NORTHWEST</b>					
Indicated	2.5	0.81	0.05	20.1	1.2
<b>Totals</b>	<b>2.5</b>	<b>0.81</b>	<b>0.05</b>	<b>20.1</b>	<b>1.2</b>
<b>The Neck</b>					
Indicated	0.4	0.84	0.03	3.5	0.1
<b>Totals</b>	<b>0.4</b>	<b>0.84</b>	<b>0.03</b>	<b>3.5</b>	<b>0.1</b>
<b>MINNAMOOKA</b>					
Indicated	4.7	0.82	0.05	38.3	2.1
Inferred	0.9	0.78	0.04	6.7	0.3
<b>Totals</b>	<b>5.5</b>	<b>0.82</b>	<b>0.04</b>	<b>45</b>	<b>2.4</b>
<b>COMBINED NORTHERN DEPOSITS</b>					
Measured	7.8	0.96	0.07	75.5	5.1
Indicated	9.7	0.83	0.04	79.9	4
Inferred	0.9	0.78	0.04	6.7	0.3
<b>TOTALS</b>	<b>18.4</b>	<b>0.88</b>	<b>0.05</b>	<b>162.1</b>	<b>9.4</b>



# RESOURCE TABLES

## COMBINED SCONI DEPOSITS NI-CO & SC RESOURCE STATEMENTS

COG NICKEL EQUIVALENT = 0.7% (NI + 1.5 CO + 0.01 SC)

Deposit	Tonnes Mt	Ni %	Co %	Sc g/t	Ni Metal kt	Co Metal kt	Sc Metal t	Equivalent Sc Oxide t
<b>KOKOMO</b>								
Total	29.5	0.49	0.08	55	144.8	22.4	1,619	2,483
<b>GREENVALE – INSITU</b>								
Total	16.3	0.73	0.05	38	118.8	8.9	614	941
<b>GREENVALE – DUMPS AND STOCKPILES</b>								
Total	11.1	0.42	0.03	44	46	3.8	483	741
<b>LUCKNOW</b>								
Total	13.8	0.31	0.07	116	42.2	10	1,597	2,449
<b>COMBINED SCONI SOUTH DEPOSITS RESOURCE</b>								
Measured	9.3	0.66	0.08	60	61.7	7.6	561	861
Indicated	38.3	0.52	0.07	67	198.7	28	2,580	3,956
Inferred	23.2	0.39	0.04	51	91.4	9.6	1,172	1,798
<b>Totals</b>	<b>70.7</b>	<b>0.5</b>	<b>0.06</b>	<b>61</b>	<b>351.8</b>	<b>45.2</b>	<b>4,313</b>	<b>6,615</b>
<b>BELL CREEK SOUTH</b>								
Totals	8	0.96	0.06	–	76.7	5.2	–	–
<b>BELL CREEK NORTH</b>								
Totals	2	0.86	0.03	–	16.8	0.5	–	–
<b>BELL CREEK NORTHWEST</b>								
Totals	2.5	0.81	0.05	–	20.1	1.2	–	–
<b>THE NECK</b>								
Totals	0.4	0.84	0.03	–	3.5	0.1	–	–
<b>MINNAMOOKKA</b>								
Totals	5.5	0.82	0.04	–	45	2.4	–	–
<b>COMBINED SCONI NORTHERN DEPOSITS RESOURCE</b>								
Measured	7.8	0.96	0.07	–	75.5	5.1	–	–
Indicated	9.7	0.83	0.04	–	79.9	4	–	–
Inferred	0.9	0.78	0.04	–	6.7	0.3	–	–
<b>Totals</b>	<b>18.4</b>	<b>0.88</b>	<b>0.05</b>	<b>–</b>	<b>162.1</b>	<b>9.4</b>	<b>–</b>	<b>–</b>
<b>COMBINED SCONI SOUTHERN AND NORTHERN DEPOSITS RESOURCE</b>								
Measured	17.1	0.8	0.07	33	137.3	12.7	561	861
Indicated	48	0.58	0.07	54	278.6	32	2,580	3,956
Inferred	24	0.41	0.04	49	98.1	9.9	1,172	1,798
<b>TOTAL</b>	<b>89.1</b>	<b>0.58</b>	<b>0.06</b>	<b>48</b>	<b>514</b>	<b>54.5</b>	<b>4,313</b>	<b>6,615</b>

**NOTE:** In the Northern nickel deposits the Sc grade is typically very low (5–30g/t Sc), therefore no Sc Resource estimated. Resultant Sc grade for combined SCONI (South and North) Project is therefore low. Variations in totals may be due to rounding factors.



# RESOURCE TABLES

## COMBINED SCONI DEPOSITS NI-CO & SC RESOURCE STATEMENTS

**COG NICKEL EQUIVALENT = 1.0% (NI + 1.5 CO + 0.01 SC)**

Deposit	Tonnes Mt	Ni %	Co %	Sc g/t	Ni Metal kt	Co Metal kt	Sc Metal t	Sc Oxide t
<b>KOKOMO</b>								
Total	13.9	0.56	0.1	80	77.4	14.2	1,108	1,699
<b>GREENVALE – INSITU</b>								
Total	9.5	0.95	0.07	39	90.3	6.9	365	560
<b>GREENVALE – DUMPS AND STOCKPILES</b>								
Total	2.6	0.58	0.05	40	15.1	1.3	103	158
<b>LUCKNOW</b>								
Total	10.1	0.28	0.07	145	28.4	7.3	1,459	2,238
<b>COMBINED SCONI SOUTH DEPOSITS RESOURCE</b>								
Measured	6.2	0.79	0.1	73	48.8	6.2	451	691
Indicated	23.2	0.56	0.08	92	129.5	19.5	2,140	3,281
Inferred	6.6	0.49	0.06	67	32.9	3.9	445	682
<b>Totals</b>	<b>36.1</b>	<b>0.59</b>	<b>0.08</b>	<b>84</b>	<b>211.2</b>	<b>29.5</b>	<b>3,036</b>	<b>4,656</b>
<b>BELL CREEK SOUTH</b>								
Totals	3.6	1.21	0.08	–	43.3	3	–	–
<b>BELL CREEK NORTH</b>								
Totals	0.4	1.16	0.04	–	4.8	0.1	–	–
<b>BELL CREEK NORTHWEST</b>								
Totals	0.4	1.05	0.06	–	4.5	0.3	–	–
<b>THE NECK</b>								
Totals	0.1	1.17	0.03	–	0.9	0.02	–	–
<b>MINNAMOOLKA</b>								
Totals	1	1.07	0.08	–	11	0.8	–	–
<b>COMBINED SCONI NORTHERN DEPOSITS RESOURCE</b>								
Measured	3.6	1.21	0.08	–	43	3	–	–
Indicated	1.9	1.09	0.06	–	20.4	1.2	–	–
Inferred	0.1	1.04	0.07	–	1	0.1	–	–
<b>Totals</b>	<b>5.5</b>	<b>1.16</b>	<b>0.08</b>	<b>–</b>	<b>64.5</b>	<b>4.3</b>	<b>–</b>	<b>–</b>
<b>COMBINED SCONI SOUTHERN AND NORTHERN DEPOSITS RESOURCE</b>								
Measured	9.8	0.94	0.09	46	91.9	9.2	451	692
Indicated	25.1	0.6	0.08	85	149.9	20.7	2,140	3,282
Inferred	6.7	0.5	0.06	66	33.9	3.9	445	682
<b>TOTAL</b>	<b>41.6</b>	<b>0.66</b>	<b>0.08</b>	<b>73</b>	<b>275.7</b>	<b>33.8</b>	<b>3,036</b>	<b>4,656</b>

**NOTE:** In the Northern nickel deposits the Sc grade is typically very low (5–30g/t Sc), therefore no Sc Resource estimated. Resultant Sc grade for combined SCONI (South and North) Project is therefore low. Variations in totals may be due to rounding factors.





# NOTES TO RESOURCE TABLES

## AND COMPETENT PERSON STATEMENTS

1. Scandium is typically sold as an oxide product. Hence the equivalent scandium oxide has been calculated at 1.534 times contained scandium metal.
2. The Mineral Resources for the Southern Deposits of Lucknow, Greenvale and Kokomo are reported at a cut-off grade (COG) of NiEq 0.7% (Ni + 1.5Co + 0.01Sc). This NiEq COG formula has been calculated using commodity prices of US\$10/lb nickel, US\$15/lb cobalt and US\$1,500/kg scandium oxide, and recoveries of 90% for all three metals. Metallica indicates that the metallurgical testwork to date provides reasonable potential for the nickel, cobalt and scandium to be recovered at similar recoveries to those achieved in the testwork.
3. The Mineral Resources for the Northern Deposits of Bell Creek South, Bell Creek North, Bell Creek Northwest, Minnamoolka and The Neck are reported at a COG of NiEq 0.7% (Ni + 1.5Co). This NiEq COG formula has been calculated using commodity prices of US\$10/lb nickel and US\$15/lb cobalt, and recoveries of 90% for both nickel and cobalt.
4. No scandium content was estimated in the Northern deposits as Sc assays are generally not available. From limited data there is good indication the Northern deposits are relatively low in Sc (generally between 5 and 30g/t Sc).
5. Variations in totals may be present due to rounding factors.
6. For further details on the SCONI scandium and nickel cobalt resource see Metallica Minerals Ltd's ASX release JORC 2013 – Sc–Co–Ni Resource Upgrade dated 21 October 2013.

### COMPETENT PERSONS STATEMENTS

**Technical information and exploration results** contained in this report have been compiled by Metallica Minerals Ltd's full time employee Andrew Gillies B.Sc MAus.I.M.M in the position of Non-Executive Director.

Mr Gillies has sufficient experience that is relevant to the style of mineralisation being reported on to qualify as a Competent Person as defined in the 2012 edition of the Australasian Code for Reporting of Minerals Resources and Ore Reserves. Mr Gillies consents to the inclusion in this report of the matters based on the information in the form and context in which it appears.

**The SCONI Nickel-Cobalt and Scandium Project Mineral Resource Estimate(s)** is based upon and accurately reflects data compiled, validated or supervised by Mr John Horton, Principal Geologist FAus.I.M.M (CP) and is a full time employee of Golder Associates Pty Ltd.

Mr Horton has sufficient experience that is relevant to the style of mineralisation and the type of deposit under consideration and to the activity which he has undertaken to qualify as a Competent Person as defined in the 2012 edition of the 'Australasian Code for the Reporting of Exploration Results, Mineral Resources and Ore Reserves. Mr Horton consents to the inclusion of this information in the form and context in which it appears in this report.

**The information in this report that relates to Ore Reserves** is based on information compiled by François Bazin of IMC Mining Pty Ltd, a Competent Person who is a Chartered Professional Member of The Australasian Institute of Mining and Metallurgy.

François Bazin has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the activity being undertaken 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. François Bazin consents to the inclusion in the report of the matters based on his information in the form and context in which it appears. François Bazin is a consultant to Metallica Minerals Limited and Oresome Australia Pty Ltd.

### CAUTION REGARDING FORWARD LOOKING STATEMENTS

Certain statements made in this report contain or comprise certain forward-looking statements.

Although Metallica believes that the estimates and expectations reflected in such forward-looking statements are reasonable, no assurance can be given that such expectations will prove to have been correct. Accordingly, results could differ materially from those set out in the forward-looking statements as a result of, among other factors, changes in economic and market conditions, success of business and operating initiatives, changes in the regulatory environment and other government actions, fluctuations in commodity prices and exchange rates and business and operational risk management. Metallica undertakes no obligation to update publicly or release any revisions to these forward-looking statements to reflect events or circumstances after today's date or to reflect the occurrence of unanticipated events.