



**ANNUAL REPORT  
2017**

# CORPORATE DIRECTORY

## Directors

Mr Peter Turnbull  
Non-Executive Chairman

Mr Steve Boulton  
Non-Executive Director

Mr Wang Ruobing  
Non-Executive Director

Mr Shu Zhang  
Alternate Director to Mr Wang Ruobing

## Chief Executive Officer

Mr Simon Slesarewich

## Chief Financial Officer & Company Secretary

Mr John Haley

## Principal Registered Office in Australia

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## Website

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## Share Registry

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Brisbane QLD 4000  
+61 73320 2200

## Auditor

BDO Australia  
Level 10, 12 Creek Street  
Brisbane QLD 4000

## Legal

HopgoodGanim  
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1 Eagle Street  
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## Stock Exchange Listing

ASX:MLM

## Australian Business Number

ABN 45 076 696 092

## 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



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# 2017 ACHIEVEMENTS

## Approval

Received Federal Government environmental approval for Urquhart Bauxite Project

## On track

For bauxite sales in calendar year 2017

## Signed

Native Title Agreement with Traditional Landowners for Urquhart Bauxite Project

## Signed

Mining and Haulage Agreement with LCR Group for Urquhart Bauxite Project

## 1.5Mt

Pre-Feasibility Study completed and confirms production of 1.5Mtpa is feasible by 2019

## AU\$10M

Sale of SCONI Project for cash and shares

## AU\$5.65M

Funding available

## Board

New independent chairman and a further independent non-executive director appointed

Unless stated otherwise, all amounts are in AUD.



# 2018 GOALS

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Secure off-take and sales contracts for Urquhart Bauxite Project

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Continue production of direct shipping bauxite (DSB) from Urquhart Bauxite Project

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Commence ramp up of Urquhart bauxite production to 1.5Mtpa

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Continue to pursue value adding bauxite acquisitions

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Continue to realise value from non-core assets

## LONG TERM VISION

Achieve 5 – 7 Mtpa of bauxite sales in 3-5 years



# LETTER TO SHAREHOLDERS

## Dear Metallica shareholders,

It is with pleasure that we present Metallica's Annual Report for financial year 2017, a year that has seen our focused efforts deliver on a number of key milestones, which have included;

- Being fully funded through to start of production with \$5.65 million (cash and standby credit facility) in place,
- A Pre-Feasibility Study (PFS) that confirms production capability of 1.5Mtpa by 2019,
- First production on target for Q4 2017 requiring minimal capex,
- Significant value realised through the sale of non-core assets,
- Continuing assessment of potential acquisition opportunities to foster continued growth.

During this period we have continued to streamline the board and management team in order to bolster experience in project development and prepare for operations going forward. I was very pleased to be appointed as independent non-executive chairman in December 2016 with Mr Steve Boulton being appointed as an independent non-executive director in January 2017. Both Steve and I have significant experience in the resources industry including in relation to strategic growth options, project development and funding options. During this period we saw the retirement of Mr Barry Casson and Mr Andrew Gillies, both of whom have played a pivotal role in Metallica's development over their many years of valuable and dedicated service and we thank them sincerely for their service.

Metallica has moved closer towards its goal of transitioning from minerals explorer and developer to a successful, sustainable and profitable bauxite miner. Our focus has remained consistent and, in doing so, the projected first production from our Urquhart Bauxite Project in far north Queensland is close.

The 2017 financial year began with a drilling program in August 2016 at the Urquhart Bauxite Project, the results of which were used to upgrade the Project's total Mineral Resource to 9.5Mt and to complete the PFS. The completed PFS outlined the attractiveness of the Project and justified our development plans. With our focus on de-risking the Project we have delivered a fit-for-purpose logistics solution that utilises contractors to deliver mining services and transport our bauxite to the barge loading and transshipping facility at nearby Hey Point. By doing this we can deliver the Project at a low capital development cost with a significantly compressed start up schedule.

The Joint Venture entered into an agreement with LCR Group (LCR), a well-known and established contractor with significant experience in Queensland, who will undertake all mining and haulage operations on behalf of the Urquhart Bauxite Project. LCR will be responsible for the supply of all equipment and personnel for the mining and haulage operations and will perform all short-term planning and management to deliver Urquhart bauxite from the Project to Hey Point, where it will be transhipped via existing infrastructure into ocean going vessels. Via the short-term loan to Green Coast Resources, Metallica played an integral role in facilitating the first independent bauxite exports from Cape York (October 2016), the first in more than 50 years. Bauxite from our Urquhart Bauxite Project will utilise the same facility to deliver our Direct Shipping Bauxite to the open market across Asia.

Metallica is fully funded following the completion of a \$3.05 million Rights Issue in April 2017, which was followed by the conversion of options in July 2017 bolstering the Company's cash reserves for our Urquhart Bauxite Project and providing additional working capital for growth. We have been encouraged by the demand from existing shareholders and new investors alike which we appreciate.

Subsequent to the financial year end Metallica secured a \$2 million standby credit facility which we believe is a prudent

financial measure that will provide additional balance sheet flexibility during the Project's construction and ramp-up phase, should it be required. Metallica is now fully funded for its maiden bauxite mining operations on current projections, with access to \$5.65 million (cash and standby facility).

We moved much closer to obtaining the mining lease for the Urquhart Bauxite Project by signing the Native Title and Traditional Landowner Agreements following discussions with the Ngan Aak-Kunch Aboriginal Corporation (NAK) on behalf of the Wik and Wik Way People. These significant agreements will ensure Metallica preserves the significant cultural heritage in the Project area and ensures benefits are shared through a commitment to local job and contracting opportunities, as well as production payments, delivering mutual benefits to all parties. The execution of these agreements should see the grant of a Mining Lease very soon. From there a separate agreement for the 15km haul road linking Urquhart Bauxite Project to Hey Point will be finalised.

With first production nearing, offtake negotiations and sales contracts are of the highest priority so as to underpin the development of the Urquhart Bauxite Project. With Australia being the world's largest producer of bauxite, currently accounting for one-third of global output and with global economic growth anticipated to underpin solid demand for aluminium, hence bauxite, the outlook for Australian bauxite producers is positive. Metallica holds a unique position which, we believe, provides us with an ideal platform from which to grow.

While Metallica is focused on bringing the Urquhart Bauxite Project into production, we continue to assess potential acquisition opportunities that will add value for shareholders, as well as investigating opportunities to unlock value from non-core assets. As a result of Metallica transitioning from a multi-commodity focus, to a successful and profitable bauxite miner the Company is consolidating its assets. As such and subsequent to the financial year end

Metallica executed a Sale and Purchase Agreement with Australian Mines Limited in September 2017 in relation to the SCONI Project tenements in North Queensland agreeing to the sale of 100% of the asset for \$10 million.

We believe financial year 2018 will see significant activity and growth for Metallica and, as such, we remain strongly aware of our corporate and social responsibilities. We continue to review our Corporate Governance policies, ensuring they are upheld to the highest of standards, and place great importance on maintaining an effective, stable and independent board whose focus is on making decisions in the best interests of our shareholders.

We also acknowledge the importance of providing timely and relevant information to our shareholders and the market in an accessible manner and with that in mind we recently upgraded our corporate website ([www.metallicaminerals.com.au](http://www.metallicaminerals.com.au)). We will continue to develop this website in order to offer the best possible insight into our activities. With that in mind I urge you to register on our website for our Newsletters which will keep you up-to-date with our progress.

As Metallica moves toward operational production and revenue generation we would like to thank our staff for their continued dedication and professionalism. Our team possesses the skills and enthusiasm to achieve the strategic vision developed by the board and we appreciate their efforts and achievements.

We would also like to take this opportunity to thank all of our shareholders for your continuing support which is so vital to achieving production at the Urquhart Bauxite Project and to growing Metallica into the future.



PETER TURNBULL  
Non-Executive Chairman



SIMON SLESAREWICH  
Chief Executive Officer

# REVIEW OF OPERATIONS

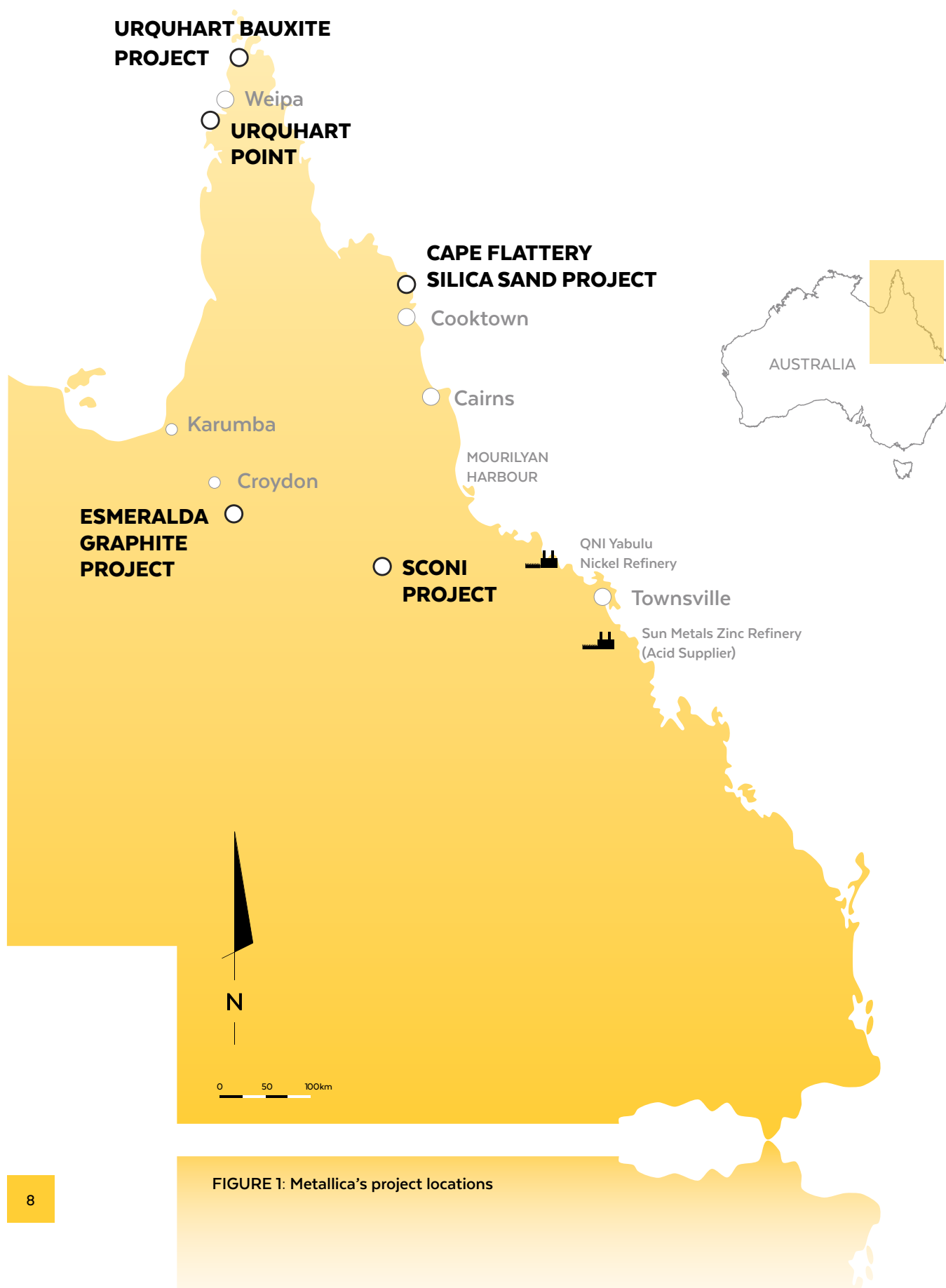


FIGURE 1: Metallica's project locations



# CAPE YORK BAUXITE & HMS JV

**2,042 Ha**

## Mining leases and Mining lease applications

**1,145 km<sup>2</sup>**

## Exploration tenure

## Bx & HMS

Bauxite and  
Zircon, Rutile, and  
Titanium metals

## MLM 50%

Manager of Joint  
Venture with Ozore  
Resources Pty Ltd  
holding remaining 50%

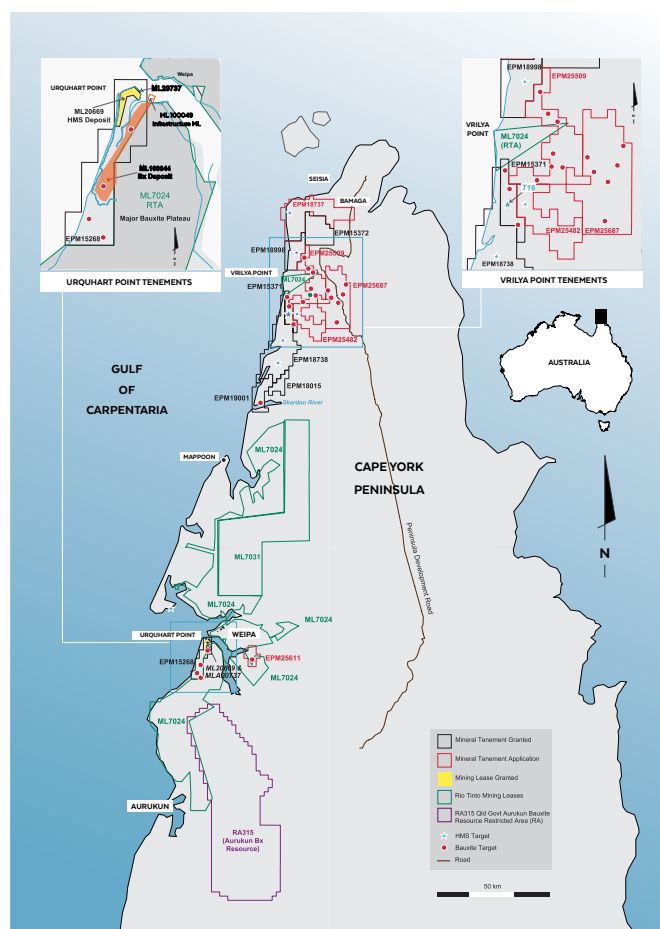
The Cape York Bauxite and HMS Project is located on the west coast of Queensland's Cape York Peninsula with 50% held by Metallica Minerals' wholly-owned subsidiary, Oresome Australia Pty Ltd, who is also the Manager of the Joint Venture (JV). The remaining 50% interest is held by a private Chinese investor, Ozore Resources Pty Ltd, pursuant to the Cape York Bauxite and HMS JV announced in August 2014.

Since the formation of the JV, it has expended to more than \$10 Million which has been applied to progressing

development of the Urquhart Bauxite Project as well as the design and fabrication of the Urquhart Point HMS processing plant, which is currently in storage.

The JV project has three separate components;

- Urquhart Bauxite Project
- Urquhart Point HMS Project
- Cape York regional Bauxite & HMS exploration



**FIGURE 2: Cape York Bauxite and HMS project location**

# URQUHART BAUXITE PROJECT



The Urquhart Bauxite Project is located some 5 km southwest of Weipa on the west coast of Queensland's Cape York Peninsula. The Western Cape York area is world-renowned for its extensive deposits of high-quality, export-grade pisolitic bauxite. The project consists of two bauxite plateaux, known as Area A and Area B, which are wholly contained within the lease.

Subsequent to the end of FY2017 in August 2017<sup>1</sup>, the federal government approved the development of the Project in accordance with the *Environmental Protection and Biodiversity Conservation Act 1999*. The federal government has appropriately conditioned the development and those conditions are in line with the Company's expectations.

Metallica is awaiting Queensland state government approval for the Mining Lease

and Environmental Authority whilst still progressing a separate approval for the haul road linking the Urquhart Bauxite Project to the established port infrastructure at Hey Point. The Company remains confident of receiving the above approvals.

The Project's JORC (2012) Resource estimate was updated in November 2016<sup>2</sup>, following a drilling program completed in August 2016. The total Mineral Resource

increased by 26% to 9.5Mt, with 6.9Mt being in the Measured and Indicated categories (see Table 1). An additional 8.5Mt of lower grade transitional material, over and above the 9.5Mt, has been identified for potential beneficiation through dry screening. Further investigation of the potential of this transitional material will be completed when mining is underway.

**TABLE 1: Urquhart Bauxite Project DSB Mineral Resource at an effective cut-off of 48% Al<sub>2</sub>O<sub>3</sub>**

| Classification | Area     | Mt  | Al <sub>2</sub> O <sub>3</sub> % | SiO <sub>2</sub> % | AAI% | RSi% |
|----------------|----------|-----|----------------------------------|--------------------|------|------|
| Measured       | A        | 3.0 | 54.4                             | 11.8               | 43.2 | 5.0  |
| Indicated      | A        | 3.9 | 53.3                             | 13.1               | 40.8 | 5.2  |
| Inferred       | A        | 0.3 | 54.2                             | 11.3               | 42.0 | 4.7  |
|                | B        | 2.3 | 49.9                             | 17.4               | 37.2 | 6.0  |
|                | Subtotal | 2.6 | 50.3                             | 16.8               | 37.6 | 5.9  |
| Total          |          | 9.5 | 52.8                             | 13.7               | 40.7 | 5.3  |

## NOTES

\* AAI – Available Alumina @ 150°C

\*\* RSi – Reactive Silica @ 150°C

1. ASX Release 22 August 2017 "Federal Government Approval for Urquhart Bauxite Project", available [www.asx.com.au](http://www.asx.com.au)
2. ASX Release 14 November 2016 "Significant Increase to Mineral Resource at Urquhart Bauxite", available [www.asx.com.au](http://www.asx.com.au)

# URQUHART BAUXITE PROJECT

Following the updated JORC (2012) Resource estimate, a PFS<sup>3</sup> was completed highlighting that the development of the Urquhart Bauxite Project had the potential to deliver strong financial returns for minimal capital expenditure. By utilising a contractor model that transferred risk and capital away from the Company, Metallica is able

to maximise returns to shareholders. The contract executed with LCR Group Pty Ltd (LCR)<sup>4</sup> delivers on this strategy with costs in line with assumptions contained within the PFS.

The PFS was independently prepared by Brisbane-based international consultancy, IMC Mining Pty Ltd (IMC), which also completed the

update of the JORC (2012) Resource estimate. London-based independent metals analyst, CRU International, estimated the Free On Board (FOB) USD price of bauxite received utilising the Life of Mine (LOM) schedule produced by IMC.

The results of the PFS are summarised in Table 2.

**TABLE 2: Summary of 2016 PFS Results–Urquhart Bauxite Project**

| Item                                     | Unit   | Scenario 1 (Base Case)<br>Mining Proved & Probable<br>Reserves in Area A | Scenario 2<br>Additional mining of<br>Inferred resource in both<br>Area A and Area B | Scenario 3<br>At end of mine life,<br>screening transitional<br>stockpiled material |
|--|--------|--|--|---|
| <b>Total Saleable Product</b>            | dry kt | 6,532  | 8,672  | 10,296  |
| <b>Total Al<sub>2</sub>O<sub>3</sub></b> | %      | 52.7   | 51.6   | 51.2  |
| <b>Total SiO<sub>2</sub></b>             | %      | 13.3   | 14.7   | 15.4  |
| <b>AAI</b>                               | %      | 40.6   | 39.1   | 38.1  |
| <b>RSi</b>                               | %      | 5.7  | 6.1  | 6.1   |
| <b>Total Revenue</b>                     | A\$m   | 295.5  | 364.5  | 416.9   |
| <b>EBITDA</b>                            | A\$m   | 81.8   | 82.6   | 90.8  |
| <b>NPV10 Pre Tax</b>                     | A\$m   | 78.4   | 78.9   | 86.9  |
| <b>NPV10 Post Tax</b>                    | A\$m   | 53.9   | 54.2   | 59.9  |
| <b>LOM Capital</b>                       | A\$m   | 2.7  | 3.0  | 3.1   |
| <b>Avg FOB Cost*</b>                     | A\$/t  | 32.72  | 32.51  | 31.67   |
| <b>Avg FOB Received</b>                  | A\$/t  | 45.24  | 42.03  | 40.49   |
| <b>Payback</b>                           | months | 5  | 5  | 5   |

## NOTES

\* Includes all operating costs, royalties and other payments

Metallica confirms all material assumptions underpinning production targets and corresponding financial information continue to apply and have not materially changed as per Listing Rule 5.19.2

3. ASX Release 30 December 2017 “Urquhart Bx PFS–incl Inferred Resource Assumptions–P 4 & 5”, available [www.asx.com.au](http://www.asx.com.au)

4. ASX Release 22 May 2017 “Mining and Haulage Agreement Signed”, available [www.asx.com.au](http://www.asx.com.au)



# URQUHART BAUXITE PROJECT

The completion of the PFS allows for a maiden JORC (2012) Reserves Statement (see Table 3) contained within Mining Lease Application (MLA) 100044.

The barging and associated infrastructure<sup>5</sup> remains in place and a Mining and Haulage Contract has been executed with LCR and is in line with the cost estimates in the PFS.

**Table 3: Urquhart Bauxite Project Reserves**

|             | Area | Direct Shipping<br>Bauxite (Low Temp) | Al <sub>2</sub> O <sub>3</sub> | SiO <sub>2</sub> | THA  | Low Temp<br>RSi |
|-------------|------|---------------------------------------|--------------------------------|------------------|------|-----------------|
|             |      | Dry kt                                | %                              | %                | %    | %               |
| Proved      | A    | 2,964                                 | 53.7                           | 12.3             | 42.3 | 5.4             |
| Probable    | A    | 3,568                                 | 51.9                           | 14.2             | 39.1 | 5.9             |
| Ore Reserve | A    | 6,532                                 | 52.7                           | 13.3             | 40.6 | 5.7             |

5. ASX Release 24 October 2016 "Logistics Provider Ships Maiden Bauxite Cargo", available [www.asx.com.au](http://www.asx.com.au)







# URQUHART POINT HMS PROJECT

The Urquhart Point HMS Project is located 3 km southwest of Weipa. The JV envisages a simple dry mining (<3m depth) and wet processing operation using standard gravity (spiral concentrators) HMS separation to produce a zircon-rutile heavy mineral concentrate (HMC).

The modularised HMS processing plant, purpose built in South Africa for the project, arrived in Australia

in December 2015 and is currently stored near Brisbane. Although heavy mineral sands prices have improved, the JV has deferred construction of the processing plant to focus on the higher value Urquhart Bauxite Project.

Following several approaches from third parties, the JV is progressing several HMS options that may deliver value to this asset within the JV.

The HMS development plan can be implemented very quickly to deliver production if there is a continued improvement in commodity prices.





# CAPE YORK REGIONAL EXPLORATION

The JV holds extensive regional tenements along the 200 km sandy coastal belt between Weipa and the tip of Cape York Peninsula that are prospective for bauxite and HMS.

The JV did not undertake any field work on its regional bauxite and HMS exploration targets during the year. With a clear focus on the Urquhart Bauxite Project, regional exploration is currently on hold.

Significant areas of coastal bauxite have previously been identified during a review of the Cape York tenement portfolio. The target areas are characterised by low lying, partly dissected and undulating laterite plateaus. Data compilation and desk-top studies have outlined eight prospective plateau zones within the tenements where previous exploration drilling encountered bauxite intervals grading in excess of 40%  $\text{Al}_2\text{O}_3$  (alumina).

An initial combined bauxite exploration target\* across the regional Cape York tenements is in the range of 42 Mt–128 Mt (see table on page 24). The JV has consolidated the size of its tenement holding and reduced holding and operational costs by surrendering areas considered unlikely to hold significant amounts of mineralisation for development.

## \*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.

# ESMERALDA GRAPHITE PROJECT

## 589 km<sup>2</sup>

Exploration tenure

## Graphite

Large scale “graphite in granite”- targeting high purity graphite

## MLM 100%

Through subsidiary Touchstone Resources Pty Ltd



In July 2015<sup>6</sup>, Metallica was granted Exploration Permits for Minerals (EPMs) 25779, 25806 and 25807, which make up the Esmeralda Graphite Project. The Project, located near Croydon in north Queensland (see Figure 1), covers a combined area of more than 500 km<sup>2</sup> and is held 100% by Metallica’s wholly-owned subsidiary, Touchstone Resources Pty Ltd.

In October 2015<sup>7</sup> a graphite specific drilling program commenced. The assay results confirmed thick graphite (graphitic carbon – Cg) mineralised

intervals in the first two exploration holes.

The core was assayed for graphite content and total carbon. In summary, both drill holes (in a vertical two-hole drilling program) intersected significant broad graphite mineralisation (using a 3% Cg cut-off) with continuous intercepts of:

WD001 – 95m @ 6.5% Cg from 71m

WD002 – 29.1m @ 7.8% Cg from 71.9m

Standard procedures that involved crushing and preparation of representative

drill core samples for bench scale floatation test work showed that a concentrate grade of 91.5% TC (90.6% Cg) was able to be produced at a 91.0% recovery. Further purification test work using an additional single stage caustic bake and wash process, produced an even higher concentrate grade of 97.8% TC1.

The Company completed an electromagnetic geophysics program in October 2016 to identify near-surface graphite mineralisation for follow up drill testing. Analysis of the EM geophysics program failed to identify

any near-surface graphite mineralisation targets in the survey area, which covers 3.5% of the total Project area.

The Company plans to review the Project area to identify other locations that may contain near-surface graphite mineralisation. This strategy may include a modest exploration field program during 2017.

6. ASX Release 15 July 2015 “Graphite in Granite Project”, available [www.asx.com.au](http://www.asx.com.au)

7. ASX Release 23 October 2015 “Drill Rig Mobilised to Esmeralda Graphite Project”, available [www.asx.com.au](http://www.asx.com.au)





Graphite is used in industrial applications such as crucibles



# SCONI SCANDIUM, COBALT & NICKEL PROJECT

## 2,038 Ha

Mining leases

## 478 Ha

Mineral development licenses

## 115 km<sup>2</sup>

Exploration tenure

## MLM 100%

Through subsidiaries  
NORNICO Pty Ltd  
and Greenvale  
Operations Pty Ltd

The SCONI scandium-cobalt-nickel tri-metal Project is located 250km northwest of Townsville, Queensland (see Figure 1). The SCONI Project consists of five deposits, Greenvale, Lucknow, Bell Creek, Minnamoolka and Kokomo, with granted mining leases covering all key deposits.

In September 2017<sup>8</sup>, subsequent to the end of FY2017, and in line with the clear strategy to unlock value, Metallica announced the execution of a Sale and Purchase Agreement with Australian Mines Pty Ltd (Australian Mines) in relation to the SCONI Project.

The Agreement provides for the sale of 100% of the Project tenements to Australian Mines, superseding the Farm-in and Joint Venture (JV) Agreement<sup>9</sup> announced by Metallica on 10 October 2016.

### KEY TERMS OF THE AGREEMENT INCLUDE:

- Payment of A\$3.5M (**Completion Payment**) in cash by Australian Mines to Metallica on the Completion Date;
- Issuance of Australian Mines shares to Metallica to the value of A\$1.5M (based on a 30-day volume weighted average price) (**Consideration Shares**) upon the earlier of the completion of a Definitive Feasibility Study by Australian Mines or 30 June 2018;
- A further A\$5M in cash or issuance of Australian Mines shares (based on a 30-day volume weighted average price) (**Production Payment**) following the commencement of commercial production from the SCONI Project;

- Australian Mines shares issued to Metallica will be subject to a three-month escrow period;
- Metallica will obtain a caveat and mortgage over the SCONI tenements to protect its rights under the Agreement; and
- The termination of the Farm-In and JV Agreement between Metallica and Australian Mines.

The Completion Payment is expected to be made 5 days after a number of conditions precedent are satisfied by Australian Mines, including obtaining shareholder approval for the Sale and Purchase Agreement (if required) and (completing a capital raising to fund the Completion Payment – this has been subsequently completed).

The Agreement is subject to several other conditions precedent related to regulatory and other approvals and contains a number of other terms considered normal in an agreement of this nature. If the conditions precedent are not satisfied or waived within 60 business days then the Agreement will be terminated.

8. ASX Release 6 September 2017 "Sale of SCONI Project for \$10 million", available [www.asx.com.au](http://www.asx.com.au)

9. ASX Release 10 October 2016 "SCONI JV with Australian Mines", available [www.asx.com.au](http://www.asx.com.au)

# CAPE FLATTERY SILICA SANDS

**54 km<sup>2</sup>**

Exploration tenure

**Silica Sands**

For bulk export shipping

**MLM 100%**Through subsidiary  
Oresome Australia  
Pty Ltd

The Cape Flattery Silica Sands Project is located approximately 200 km north of Cairns in North Queensland (see Figure 1).

The EPM covers part of a large Quaternary sand dune field, a section of which is currently being mined by Cape Flattery Silica Mines Pty Ltd (CFSM), a wholly-owned subsidiary of Mitsubishi Corporation.

The adjacent CFSM operation has operated since 1967 and is the world's largest silica sand mining operation. The dune field is known to contain high grade silica sands. Metallica will evaluate its potential for development as a silica sand mining and bulk shipping operation.

# DIRECTOR PROFILES



**PETER TURNBULL**  
**NON-EXECUTIVE CHAIRMAN**

Mr Turnbull is an experienced independent non-executive director and chairman with significant exposure to the global mining, energy and technology sectors including major project assessment, development and funding.

Peter's experience has enabled the development of global perspectives on business and significant expertise in relation to working in the digital economy and the commercialisation of disruptive technologies.

Peter has significant regulatory and public policy experience from prior executive roles including as a Director of the Securities and Futures Commission of Hong Kong. Currently, Peter is an executive committee member of several global organisations which promote good governance, and is a regular contributor and speaker in Australia and overseas on corporate governance issues and is a former President and non-executive director of the Governance Institute of Australia.

Peter's senior executive roles over 30 years involved significant experience in very large publicly listed organisations where operations spanned many different countries, particularly South East Asia, Europe and the United States. Peter's executive experience included over a decade in energy markets and the resources sector including as Company Secretary of Newcrest Mining Limited, Company Secretary and General Counsel of BTR

Nylex Limited and General Manager, Legal and Corporate Affairs with Energex Limited.

Peter is currently a non-executive director of Karoon Gas Australia (ASX:KAR) and Chairman of Calix Limited.



**STEVE BOULTON**  
**NON-EXECUTIVE DIRECTOR**

Mr Boulton's 40-year career has covered complex fund and asset investment management organisations as well as utility and infrastructure enterprises, including Director level experience in the mining and minerals sector.

Steve's CEO experience over the past 15 years was gained at entities listed on the ASX and NZX as well as private and government-owned corporations. This has included CEO positions with CP2 Funds Management, Hastings Funds Management, Prime/BBI, Powerco in New Zealand and Allgas in Australia. He has held Executive Chairman positions at Dalrymple Bay Coal Terminal and WestNet Rail both in Australia and PD Ports in the UK and executive and non-executive director roles at Infrastructure Partnerships Australia, Port of Brisbane, Australian Infrastructure Fund, Australian Pacific Airports Corporation and various infrastructure sector national associations.

Steve is currently Chairman of National Agri Terminals, a logistics entity based in Newcastle and a Director of Nova Group, a global defence and engineering services firm which has offices throughout Australia and overseas.

# DIRECTOR PROFILES



**MR WANG RUOBING**  
**NON-EXECUTIVE DIRECTOR**

Mr Wang Ruobing is the Chairman of Jilin Jien Nickel Industry Co Ltd, which through its Australian subsidiary, is the largest shareholder in Metallica Minerals Limited and China's second largest nickel producer.

Mr Wang Ruobing has worked for the Jilin Jien group since 1996, and in January 2017 was appointed Chairman of the group. Mr Wang Ruobing is a certified internal auditor.



**DR SHU ZHANG**  
**ALTERNATE NON-EXECUTIVE DIRECTOR  
TO MR WANG RUOBING**

Dr Shu Zhang held the position of alternate director for Wu Shu until 6 March 2017 and now holds the position for Wang Ruobing.

Shu holds a BE in Mining Engineering, PhD and ME Candidate in Civil and Mining Engineering.

He has more than 40 years' experience in the mining industry, first as a Miner, then a Mining Engineer and later an Executive Manager in operations and project development in Australia, China and Canada.

Shu was instrumental in the successful development of Sino Gold Mining Limited. He has worked for the Jilin Nickel Group since 2011, and has been a director of Jilin's Canadian subsidiaries, being the unlisted Canadian Royalties Inc., and the TSX listed Northern Sun Mining Corporation (until April 2016).



# MANAGEMENT PROFILES



**SIMON SLESAREWICH**  
**CHIEF EXECUTIVE OFFICER**

Mr Slesarewich is a mining engineer and registered senior site executive in Queensland with over 20 years' experience in the mining industry spanning operational and executive roles. He holds a Bachelor of Engineering (Mining) from the University of Queensland and Graduate Diplomas in Administration, as well as Applied Finance and Investment.

Simon's broad operational experience ranges up to general manager for underground base metal and gold mines, as well as general manager responsible for the development of Middlemount Coal, an open cut coking coal project located in central Queensland.

Simon held executive roles gaining experience in business development and contract negotiation before joining Boardwalk Resources where as CEO he was instrumental in the company's sale to Whitehaven Coal for A\$300m.

Simon is the former CEO of Northern Discovery Limited and executive director of Larkham Resources and is currently a director of the Queensland Resources Council and member of the Queensland Exploration Council.



**JOHN HALEY**  
**COMPANY SECRETARY &  
CHIEF FINANCIAL OFFICER**

Mr Haley has more than 35 years of senior corporate experience in Australia and Canada.

John has a strong accounting background that has seen him hold a number of senior positions spanning a range of industries including mineral exploration. He has assisted in the start-up of various mineral exploration companies and is a former Director of the Queensland Resources Council.

John has previously worked with Coopers & Lybrand and Arthur Andersen & Co. and with listed and unlisted companies in general management, financial reporting and company secretarial positions.

# **TENEMENT TABLES**

# TENEMENT TABLES

## CAPE YORK BAUXITE & HMS JOINT VENTURE

### 50% ORESOME AUSTRALIA & 50% OZONE RESOURCES PTY LTD

#### BAUXITE & HEAVY MINERAL SANDS

| Tenement  | Project Name         | Holder/Applicant                            | Status      | Area    |
|-----------|----------------------|---|-------------|---------|
| ML 20669  | Urquhart Point       | Oresome Australia P/L   Ozore Resources P/L | Granted     | 366.Ha  |
| ML 20737  | Mbung Urquhart Point | Oresome Australia P/L   Ozore Resources P/L | Granted     | 5 Ha    |
| EPM 15268 | Urquhart Point       | Oresome Australia P/L   Ozore Resources P/L | Granted     | 16 s/b  |
| EPM 15371 | Doughboy             | Oresome Australia P/L   Ozore Resources P/L | Granted     | 13 s/b  |
| EPM 15372 | Jardine              | Oresome Australia P/L   Ozore Resources P/L | Granted     | 29 s/b  |
| EPM 18015 | Jackson River #2     | Oresome Australia P/L   Ozore Resources P/L | Granted     | 4 s/b   |
| EPM 18737 | Sandman #3           | Oresome Australia P/L   Ozore Resources P/L | Granted     | 34 s/b  |
| EPM 18738 | Sandman #2           | Oresome Australia P/L   Ozore Resources P/L | Granted     | 48 s/b  |
| EPM 18998 | Sandman #5           | Oresome Australia P/L   Ozore Resources P/L | Granted     | 24 s/b  |
| EPM 19001 | Sandman #6           | Oresome Australia P/L   Ozore Resources P/L | Granted     | 21 s/b  |
| EPM 25400 | Sandman #12          | Oresome Australia P/L   Ozore Resources P/L | Granted     | 17 s/b  |
| EPM 25482 | Sandman #10          | Oresome Australia P/L   Ozore Resources P/L | Granted     | 20 s/b  |
| EPM 25509 | Sandman #11          | Oresome Australia P/L   Ozore Resources P/L | Granted     | 41 s/b  |
| EPM 25611 | Upper Embley         | Oresome Australia P/L   Ozore Resources P/L | Application | 13 s/b  |
| EPM 25687 | Vrilya East          | Oresome Australia P/L   Ozore Resources P/L | Granted     | 78 s/b  |
| ML 100044 | Urquhart Bauxite     | Oresome Australia P/L   Ozore Resources P/L | Application | 1360 Ha |
| ML 100049 | Urquhart Bauxite #2  | Oresome Australia P/L   Ozore Resources P/L | Application | 40 Ha   |

## CAPE FLATTERY SILICA SANDS PROJECT

### 100% ORESOME AUSTRALIA PTY LTD

| Tenement  | Project Name  | Holder/Applicant      | Status  | Area   |
|-----------|---------------|-----------------------|---------|--------|
| EPM 25734 | Cape Flattery | Oresome Australia P/L | Granted | 17 s/b |

# TENEMENT TABLES

## SCONI PROJECTS NORTH & SOUTH & LUCKY BREAK

### 100% METALLICA MINERALS LTD \*

#### NICKEL-COBALT PROJECT - NORTH

| Tenement | Project Name            | Holder/Applicant | Status  | Area   |
|----------|-------------------------|------------------|---------|--------|
| ML 20549 | Bell Creek Consolidated | Nornico P/L      | Granted | 393 Ha |
| MDL 387  | Minnamoolka             | Nornico P/L      | Granted | 343 Ha |
| MDL 515  | Bell Creek              | Nornico P/L      | Granted | 136 Ha |

#### NICKEL-COBALT-SCANDIUM PROJECT - SOUTH

| Tenement  | Project Name         | Holder/Applicant         | Status  | Area    |
|-----------|----------------------|--------------------------|---------|---------|
| ML 10366  | Lucknow              | Nornico P/L              | Granted | 138 Ha  |
| ML 10368  | Greenvale            | Greenvale Operations P/L | Granted | 1088 Ha |
| EPM 25865 | Greenvale Lucknow #2 | Greenvale Operations P/L | Granted | 13 s/b  |
| ML 10342  | Kokomo               | Nornico P/L              | Granted | 419 Ha  |
| EPM 25833 | Kokomo               | Nornico P/L              | Granted | 10 s/b  |
| EPM 25834 | Greenvale Lucknow    | Nornico P/L              | Granted | 13 s/b  |

#### LUCKY BREAK NICKEL PROJECTS

| Tenement | Project Name | Holder/Applicant | Status  | Area  |
|----------|--------------|------------------|---------|-------|
| ML 10324 | Dingo Dam    | Nornico P/L      | Granted | 36 Ha |
| ML 10332 | Lucky Break  | Nornico P/L      | Granted | 29 Ha |

\*See ASX release dated 6 September 2017, "Sale of SCONI Project for \$10 million" available at [www.asx.com.au](http://www.asx.com.au)



# TENEMENT TABLES

## PHOENIX LIMESTONE PROJECTS & ESMERALDA GRAPHITE PROJECT

### 100% METALLICA MINERALS LTD

#### PHOENIX LIMESTONE PROJECTS

| Tenement  | Project Name | Holder/Applicant | Status  | Area  |
|-----------|--------------|------------------|---------|-------|
| EPM 25728 | Fairview     | Phoenix Lime P/L | Granted | 5 s/b |
| EPM 25756 | Fairview #1  | Phoenix Lime P/L | Granted | 1 s/b |

#### ESMERALDA GRAPHITE PROJECT

| Tenement  | Project Name   | Holder/Applicant         | Status  | Area   |
|-----------|----------------|--------------------------|---------|--------|
| EPM 25779 | Warrior        | Touchstone Resources P/L | Granted | 19 s/b |
| EPM 25806 | Esmeralda West | Touchstone Resources P/L | Granted | 80 s/b |
| EPM 25807 | Esmeralda East | Touchstone Resources P/L | Granted | 80 s/b |

#### NOTES

All tenements are 100% owned unless expressed otherwise

EPM - Exploration Permit for Minerals

MDL - Mineral Development License

ML - Mining Lease

S/B - Sub blocks

Ha - Hectares

# RESOURCE TABLES



# RESOURCE TABLES

## URQUHART DSB RESOURCE STATEMENT DETAILS

48% Al<sub>2</sub>O<sub>3</sub> COG

| Classification | Area     | Mt  | Al <sub>2</sub> O <sub>3</sub> % | SiO <sub>2</sub> % | AAI% | RSi% |
|----------------|----------|-----|----------------------------------|--------------------|------|------|
| Measured       | A        | 3.0 | 54.4                             | 11.8               | 43.2 | 5.0  |
| Indicated      | A        | 3.9 | 53.3                             | 13.1               | 40.8 | 5.2  |
| Inferred       | A        | 0.3 | 54.2                             | 11.3               | 42.0 | 4.7  |
|                | B        | 2.3 | 49.9                             | 17.4               | 37.2 | 6.0  |
|                | Subtotal | 2.6 | 50.3                             | 16.8               | 37.6 | 5.9  |
| Total          |          | 9.5 | 52.8                             | 13.7               | 40.7 | 5.3  |

### NOTES

\* AAI – Available Alumina @ 150°C

\*\* RSi – Reactive Silica @ 150°C

1. ASX Release 22 August 2017 “Federal Government Approval for Urquhart Bauxite Project”, available [www.asx.com.au](http://www.asx.com.au)
2. ASX Release 14 November 2016 “Significant Increase to Mineral Resource at Urquhart Bauxite”, available [www.asx.com.au](http://www.asx.com.au)

## URQUHART BAUXITE PROJECT RESERVES

|             | Area | Direct Shipping<br>Bauxite (Low Temp) | Al <sub>2</sub> O <sub>3</sub> | SiO <sub>2</sub> | THA  | Low Temp<br>RSi |
|-------------|------|---------------------------------------|--------------------------------|------------------|------|-----------------|
|             |      | Dry kt                                | %                              | %                | %    | %               |
| Proved      | A    | 2,964                                 | 53.7                           | 12.3             | 42.3 | 5.4             |
| Probable    | A    | 3,568                                 | 51.9                           | 14.2             | 39.1 | 5.9             |
| Ore Reserve | A    | 6,532                                 | 52.7                           | 13.3             | 40.6 | 5.7             |

### NOTES

1. ASX Release 24 October 2016 “Logistics Provider Ships Maiden Bauxite Cargo”, available [www.asx.com.au](http://www.asx.com.au)



# RESOURCE TABLES

## CAPE YORK BAUXITE AND HMS JOINT VENTURE

### REGIONAL BAUXITE EXPLORATION TARGETS

| Project       | Permit    | Discrete Targets | Insitu mineralisation<br>tonnage range<br>Mt <sup>2</sup> | Total Al <sub>2</sub> O <sub>3</sub><br>% <sup>3</sup> | Total SiO <sub>2</sub><br>% <sup>3</sup> |
|---------------|-----------|------------------|---|--|--|
| Vrilya        | EPM 15371 | 3                | 2 to 6  | 40-47  | insufficient data <sup>1</sup>           |
| Vrilya        | EPM 25509 | 7                | 12 to 36  | 40-48  | 10-19 <sup>1</sup>                       |
| Vrilya East   | EPM 25687 | 3                | 28 to 86  | 40-43  | insufficient data <sup>1</sup>           |
| <b>TOTALS</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.

1. Previous exploration reports SiO<sub>2</sub> data incomplete
2. Range based on measured areas of target plateaus, minimum thickness of >0.5 m bauxite, estimated average thickness of 1.5 m from previous exploration data and bulk density value of 1.5
3. Based on screened sample assay results

See ASX Release 11 July 2014, "Move to fully fledged dual HMS & Bauxite focus on prime Cape York tenement portfolio" available [www.asx.com.au](http://www.asx.com.au)

The information in the table above is summarised from the JORC 2012 Mineral Resource in the ASX Release dated 11 July 2014.

The information in this report that relates to Exploration Results and Exploration Targets is based on information compiled by John Cameron (a geologist of more than 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

## 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>Totals</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>Totals</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>Totals</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> |

The information in the table above is summarised from the JORC 2012 Mineral Resource in the ASX Release dated 20 May 2014.

# RESOURCE TABLES

## URQUHART POINT HMS RESERVE ESTIMATE

### ORE RESERVE ESTIMATE - 0.90% (Zr + 0.8 Rt + 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>Totals</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> |

#### NOTES

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 "Maiden Independent Ore Reserve for Urquhart Point HMS project" dated 24 June 2014.
6. The information in the table above is summarised from the "JORC 2012 Mineral Resource" in the ASX Release dated 24 Jan 2014.



# RESOURCE TABLES

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

COG NICKEL EQUIVALENT = 0.7% (Ni + 1.5 Co + 0.01 Sc)

| Description  | Tonnes Mt   | Ni %        | Co %        | Sc g/t     | Ni Metal kt  | Co Metal kt | Sc Metal t   | Equivalent Sc Oxide t |
|--|-------------|-------------|-------------|------------|--------------|-------------|--------------|-----------------------|
| <b>KOKOMO</b>  |             |             |             |            |              |             |              |                       |
| Measured   | 2.2         | 0.57        | 0.11        | 80         | 12.2         | 2.5         | 173          | 265                   |
| Indicated  | 17.2        | 0.56        | 0.09        | 49         | 95.8         | 15.5        | 843          | 1,292                 |
| Inferred   | 10.2        | 0.36        | 0.04        | 59         | 36.7         | 4.5         | 603          | 924                   |
| <b>Totals</b>  | <b>29.5</b> | <b>0.49</b> | <b>0.08</b> | <b>55</b>  | <b>144.8</b> | <b>22.4</b> | <b>1,619</b> | <b>2,483</b>          |
| <b>GREENVALE - INSITU, DUMPS AND STOCKPILES</b>  |             |             |             |            |              |             |              |                       |
| Measured   | 5.4         | 0.77        | 0.06        | 39         | 41.6         | 3.3         | 208          | 319                   |
| Indicated  | 10.5        | 0.7         | 0.05        | 36         | 74.3         | 5.3         | 379          | 582                   |
| Inferred   | 11.5        | 0.42        | 0.03        | 44         | 48.8         | 4           | 509          | 781                   |
| <b>Totals</b>  | <b>27.4</b> | <b>0.6</b>  | <b>0.04</b> | <b>40</b>  | <b>164.8</b> | <b>12.7</b> | <b>1,097</b> | <b>1,682</b>          |
| <b>LUCKNOW</b>   |             |             |             |            |              |             |              |                       |
| Measured   | 1.7         | 0.45        | 0.1         | 103        | 7.9          | 1.8         | 180          | 276                   |
| Indicated  | 10.6        | 0.27        | 0.07        | 128        | 28.5         | 7.2         | 1,357        | 2,081                 |
| Inferred   | 1.5         | 0.4         | 0.07        | 41         | 5.8          | 1           | 60           | 92                    |
| <b>Totals</b>  | <b>13.8</b> | <b>0.31</b> | <b>0.07</b> | <b>116</b> | <b>42.2</b>  | <b>10</b>   | <b>1,597</b> | <b>2,449</b>          |
| <b>COMBINED SOUTHERN DEPOSITS COG NICKEL EQUIVALENT = 0.7% (Ni + 1.5 Co + 0.01 Sc)</b> |             |             |             |            |              |             |              |                       |
| Measured   | 9.3         | 0.66        | 0.08        | 60         | 61.7         | 7.6         | 561          | 860                   |
| Indicated  | 38.3        | 0.52        | 0.07        | 67         | 198.7        | 28          | 2,580        | 3,957                 |
| Inferred   | 23.2        | 0.39        | 0.04        | 51         | 91.4         | 9.6         | 1,172        | 1,797                 |
| <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>          |

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

COG NICKEL EQUIVALENT = 1.0% (Ni + 1.5 Co + 0.01 Sc)

|                                   |             |             |             |           |              |             |              |              |
|-----------------------------------|-------------|-------------|-------------|-----------|--------------|-------------|--------------|--------------|
| <b>COMBINED SOUTHERN DEPOSITS</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        | 3,282        |
| 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> |

# RESOURCE TABLES

## SCONI NORTHERN DEPOSITS NI-CO RESOURCE STATEMENTS

COG NICKEL EQUIVALENT = 0.7% (Ni + 1.5 Co)

| Description                       | Tonnes<br>Mt | Ni<br>%     | Co<br>%     | Ni Metal<br>kt | Co Metal<br>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>MINNAMOOKKA</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>     |

### NOTE

- Variations in totals may be due to rounding factors

# RESOURCE TABLES

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

COG NICKEL EQUIVALENT = 0.7% (Ni + 1.5 Co + 0.01 Sc)

| Description   | Tonnes Mt   | Ni %        | Co %        | Sc g/t    | Ni Metal kt  | Co Metal kt | Sc Metal t   | Equivalent Sc Oxide t |
|---|-------------|-------------|-------------|-----------|--------------|-------------|--------------|-----------------------|
| <b>KOKOMO</b>   |             |             |             |           |              |             |              |                       |
| Totals  | 29.5        | 0.49        | 0.08        | 55        | 144.8        | 22.4        | 1,619        | 2,483                 |
| <b>GREENVALE - INSITU</b>                                     |             |             |             |           |              |             |              |                       |
| Totals  | 16.3        | 0.73        | 0.05        | 38        | 118.8        | 8.9         | 614          | 941                   |
| <b>GREENVALE - DUMPS AND STOCKPILES</b>                       |             |             |             |           |              |             |              |                       |
| Totals  | 11.1        | 0.42        | 0.03        | 44        | 46           | 3.8         | 483          | 741                   |
| <b>LUCKNOW</b>  |             |             |             |           |              |             |              |                       |
| Totals  | 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>MINNAMOOKA</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>48</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>TOTALS</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)

| Description   | Tonnes<br>Mt | Ni<br>%     | Co<br>%     | Sc<br>g/t | Ni Metal<br>kt | Co Metal<br>kt | Sc Metal<br>t | Equivalent<br>Sc Oxide t |
|---|--------------|-------------|-------------|-----------|----------------|----------------|---------------|--------------------------|
| <b>KOKOMO</b>   |              |             |             |           |                |                |               |                          |
| Totals  | 13.9         | 0.56        | 0.1         | 80        | 77.4           | 14.2           | 1,108         | 1,699                    |
| <b>GREENVALE - INSITU</b>                                     |              |             |             |           |                |                |               |                          |
| Totals  | 9.5          | 0.95        | 0.07        | 39        | 90.3           | 6.9            | 365           | 560                      |
| <b>GREENVALE - DUMPS AND STOCKPILES</b>                       |              |             |             |           |                |                |               |                          |
| Totals  | 2.6          | 0.58        | 0.05        | 40        | 15.1           | 1.3            | 103           | 158                      |
| <b>LUCKNOW</b>  |              |             |             |           |                |                |               |                          |
| Totals  | 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>MINNAMOOKA</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>TOTALS</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

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 + 1.5 Co + 0.01 Sc). 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 test work to date provides reasonable potential for the nickel, cobalt and scandium to be recovered at similar recoveries to those achieved in the test work.
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 + 1.5 Co). 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. The information in the tables above is summarised from the JORC 2012 Mineral Resource Upgrade in the ASX Release dated 21 October 2013.

## GOVERNANCE OF MINERAL RESOURCES

The Company engages external consultants and Competent Persons to prepare and calculate Mineral Resources estimates. These estimates and underlying assumptions are reviewed by the Board and Management for reasonableness and accuracy. The results of the Mineral Resource estimates are then reported in accordance with the JORC codes and other applicable rules. Where material changes occur during the year to a project, including project's size, title or exploration results or other technical information, then previous resource estimates and market disclosures are reviewed for completeness.

Metallica reviews its Mineral Resources annually. Where a material change has occurred in the assumptions or data used in previously reported Mineral Resources, a revised resource estimate will be prepared as part of the Annual Review process.

## MINERAL RESOURCES AND ORE RESERVES STATEMENTS NOTES

Tonnages, grades and contained metal have been rounded to reflect the accuracy of the calculations. Rounding errors may occur.

Mineral Resource estimates are completed in accordance with JORC (2012) Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves. The information provided in this report is summarised from the latest Mineral Resource statements as referenced in each case.

The Company confirms that it is not aware of any new information or data that materially affects the information included in the original market announcements, and in the case of estimates of Mineral Resources that all material assumptions and technical parameters underpinning the estimates in the relevant market announcement continue to apply and have not materially changed. Metallica confirms that the form and context in which the Competent Person's findings are presented have not materially changed from the original market announcement.

## 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.





# TOP 20 SHAREHOLDERS

| Rank                          | Name  | Shares             | %            |
|-------------------------------|---|--------------------|--------------|
| 1                             | JIEN MINING PTY LTD   | 40,099,678         | 12.44        |
| 2                             | PLAN-I PTY LTD  | 12,787,502         | 3.97         |
| 3                             | J P MORGAN NOMINEES AUSTRALIA Ltd   | 5,167,831          | 1.6          |
| 4                             | BONDLINE LIMITED  | 4,910,966          | 1.52         |
| 5                             | MR PAUL DOSTAL  | 4,500,000          | 1.4          |
| 6                             | COROWA NOMINEES PTY LTD   | 4,235,098          | 1.31         |
| 7                             | MR PHILLIP STANLEY HOLTEN   | 4,222,875          | 1.31         |
| 8                             | MINNELEX PTY LTD <PYPER FAMILY A/C>   | 3,765,260          | 1.17         |
| 9                             | MR JIMMY FAUSTO CAFFIERI + MRS LUCIA CAFFIERI <CAFFIERI FAMILY A/C>               | 3,558,000          | 1.1          |
| 10                            | GOLDEN BREED PTY LTD  | 3,134,500          | 0.97         |
| 11                            | ARIS NOMINEES PTY LTD <SHREEVE SUPER FUND A/C>                                    | 2,928,460          | 0.91         |
| 12                            | ASDEN INVESTMENTS PTY LIMITED <ASDEN P/L STAFF S/F A/C>                           | 2,745,121          | 0.85         |
| 13                            | BNP PARIBAS NOMINEES PTY LTD <IB AU NOMS RETAILCLIENT DRP>                        | 2,711,475          | 0.84         |
| 14                            | LATSOD PTY LTD <DOSTAL SUPERFUND A/C>   | 2,689,955          | 0.83         |
| 14                            | AUSTRALIAN EXPORTS & INDUSTRIALISATION SUPER PTY LTD <BUCK FAMILY SUPER FUND A/C> | 2,512,500          | 0.78         |
| 15                            | CODAN TRUSTEES <THE MOUNT COTTON ACCOUNT>   | 2,500,000          | 0.78         |
| 16                            | M2 ASSETS PTY LTD <M2 ASSETS A/C>   | 2,050,001          | 0.64         |
| 16                            | MR TIMOTHY NICHOLAS THOMPSON  | 2,001,528          | 0.62         |
| 17                            | MBM CORPORATION PTY LTD   | 2,000,000          | 0.62         |
| 18                            | PURE WATER SYSTEM (AUST) PTY LTD <PURE WATER SYSTEMS S/F A/C>                     | 2,000,000          | 0.62         |
| 19                            | MRS ZI JUAN QI <CHEN FAMILY A/C>  | 2,000,000          | 0.62         |
| 20                            | CHINA XINFA GROUP CORPORATION LTD   | 1,964,386          | 0.61         |
| <b>TOTALS</b>                 |   | <b>114,485,136</b> | <b>35.51</b> |
| <b>BALANCE OF REGISTER</b>    |   | <b>207,962,272</b> | <b>64.49</b> |
| <b>TOTAL SHARES ON ISSUE*</b> |   | <b>322,447,408</b> | <b>100</b>   |

\*As at 30 September 2017



