

## METALLICA MINERALS

## URQUHART JUST THE STARTING POINT

Having its Urquhart Point zircon-rutile heavy mineral sands project up and running next year will only be the beginning of a pipeline of expected HMS and bauxite projects for Metallica Minerals. The real kicker will be its regional upside, to say nothing of its SCONI project that only needs a joint venture partner to progress. **Anthony Barich** reports

**M**ETALLICA Minerals is positioning itself beautifully for commodities with rosy outlooks, with a strategic position in the world class Weipa bauxite province well known to China and sitting in what it believes to be a whole new mineral sands province.

Having been listed now for 10 years, Metallica has been releasing very positive news flow this year, with a positive feasibility study and maiden ore reserve of 1.18 million tonnes announced in June for its Urquhart Point project.

Metallica has a major presence in what it believes will be Australia's next mineral sands province – it has effectively 100% tenure and has a major bauxite upside in arguably the best bauxite region in the world.

Weipa is a massive bauxite province dominated by Rio Tinto and therefore a well-known bauxite ore product for China. It is geographically close to the Asian giant and has been a reliable supplier for a long time.

The Indonesian bauxite ban and India's bauxite export tax hike is a major change in the export bauxite market.

Indonesia exported more than 40Mt to China in 2013 and was by far the largest bauxite supplier to China, which begs the question of where the 40Mt of bauxite is going to come from – hence the opportunity for Metallica. Bauxite demand and price is expected to be particularly strong by early 2015 with the Chinese bauxite stockpile being depleted since early 2014.

"The real kicker in terms of growth and opportunity is the regional play, where we're very confident we'll be able to convert our heavy mineral sands and bauxite targets and prospects into substantial resources and even that would still be only a

small part of the region's potential," Metallica managing director Andrew Gillies said.

August 1 saw the company announce a \$7.5 million joint venture with a Chinese partner to develop its HMS and bauxite holdings on Cape York. The prospects are fully funded to production and have allowed up to \$500,000 for further regional exploration.

Then barely two weeks later Metallica raised \$500,000 of company working capital for both Urquhart Point and its scandium-cobalt-nickel (SCONI) project near Townsville.

With the estimated established cost of \$6.5 million Urquhart Point project now fully funded, Metallica is focused on its development to get it into production by mid-next year.

Leading up to the time *RESOURCESTOCKS* readers will see this profile, Metallica will be getting stuck into exploration on the regional mineral sands and bauxite, which occur side by side for the most part.

It means Metallica can get a lot of bang for each buck it spends on it because it is all shallow drilling and Gillies said the company had high confidence in the area.

"We want to get a lot of work done before the end of the dry season and we'll be hitting up the bauxite targets in our Urquhart Point tenement adjoining Rio Tinto's mining lease," he said.

"Then we'll go up to the T16 HMS target and adjoining bauxite targets near Vrilya Point, 160km north of Urquhart Point.

"Up until late 2013, Urquhart Point was the only known HMS deposit in the whole Cape York, which just seems incredulous as it's right beside the town of Weipa where they mined bauxite and there's a huge amount of sand up there, over 300km of

coastline – more than what there is between where they have mined HMS in the past from Fraser Island down to Byron Bay, which was very active in the 1960s and '70s.

"HMS targets are typically a few kilometres inland from the present coastline, probably ancient coastlines along the bauxite coast and hinterland.

"When we landed a helicopter on one of our regional radiometric targets there – of which we have about 20 – we were able to pan heavy minerals onsite with good visual HMS and sample it and the lab results came back at 3% HM, with the HM assemblage recording over 50% zircon.

"So we went back to drill 35 holes late last year and every one showed significant HM mineralisations and is therefore open in all directions."

Though T16 is a very big target, Gillies said it was important to remember that it was only a small part of the whole prospective area.

"So we're very confident we'll not only find significant mineralisation which will turn into resources at a very high level but we think we could have a new mineral sand province on our hands," he said.

"We have two spots 160km apart on a 300km long target area where we effectively have 100% tenement control and 5000-7000 years ago that mineral sand would have been shallow sandy bottoms or on a beach near the bauxite escarpments, which are also on our tenement.

"So you have these 2-10m escarpments nearby with bauxite which would've been the old coastline, which we'll be drilling for adjoining and nearby bauxite resources at the same time."

Metallica is also interested to see what happens with the large Aurukun deposit held by the Queensland

government where the company is strategically positioned with its Urquhart Point mining lease on the north tip of a large sand pit, right by the protected deep water of the Weipa port. Metallica has submitted a letter of expression of interest to the Queensland government.

"Both of those are within easy tracking distance should we come to some arrangement in the future," Gillies said.

"That's all just upside growth potential and opportunity. We have a lot on our hands and many, many targets for mineral sands and bauxite – and all those areas are close to bargable waters and at Urquhart Point it's adjacent to protected deep water for potential direct ship loading."

With mineral sands prices pretty flat at time of writing, Metallica wants to get into cash flow quickly.

It has a modest resource of just over 3.3Mt of HMS, which are all very shallow with good sizing and just 1% slimes.

Due to relatively flat and low HMS prices, to make it more robust, Metallica has high-graded the resource, at 1.18Mt at 9.5% HM, with this resource processed at about 240,000 tonnes per annum, using simple wet gravity (spirals) concentration, which will provide for a five-year operation with a one-year payback.

While Gillies said he didn't expect the modest-sized Urquhart Point HMS mine itself to re-rate the company, Metallica had its eye on the much bigger picture and stakes.

For now it provides reasonable cash flows to cover the company for at least five years and it is effectively free carried by new JV partner Ozore, earning 50%.

"Urquhart Point also allows infrastructure for adjoining bauxite to be taken out on a barge shipping

arrangement, which we'll already have for our HM concentrate of 5000-6000t, instead of barging mineral concentrate out onto a ship once every quarter or so," Gillies said.

"We do it more regularly with direct shipping bauxite on a weekly or monthly basis in 35,000-50,000t loads.

"It's really a start-up or beach head for us to get into production and cash flow, plus it could also show that we run a good operation and have good relationships with traditional owners, for bigger things regionally – both bauxite and heavy mineral sands – and we suspect that those operations will be bigger and deliver higher and long-lasting returns for shareholders."

Regarding the SCONI project, Metallica has mostly completed all the exploration, evaluation, permitting and prefeasibility work, with combined nickel-cobalt-scandium resources of about 80Mt.

All five SCONI deposits – Greenvale, Lucknow, Bell Creek, Minamoolka and Kokomo – are either mining leases or at an advanced permitted stage, with comprehensive pilot plant testwork already undertaken.

The next step remains to secure a formal JV partner. Metallica is in negotiations and hopes to have a formal JV agreement completed by the end of the year.

"Unless market conditions change substantially it would be very difficult for a company of our size to develop SCONI on our own," Gillies said.

"Our focus there is to get a partner that will free carry us to a decision to mine. We think the outlook for bauxite, nickel and cobalt is fantastic.

"Scandium and its use in aluminium alloys and fuel cells is still an emerging story but it could change very quickly and we just want to be ready for it when it does." **RS**

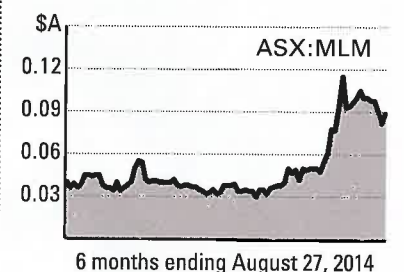
Metallica's Urquhart Point heavy mineral sands project.



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**ANDREW GILLIES**  
METALLICA MINERALS

## METALLICA MINERALS AT A GLANCE



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## MARKET CAPITALISATION

\$A14.7 million (at press time)

## QUOTED SHARES ON ISSUE

166.9 million

## MAJOR SHAREHOLDERS

Jien Mining 24.03%  
Victorian Ferries 9.54%  
Golden Breed 5.33%



## BAUXITE MARKET

# MONKEY BUSINESS



Statue in a botanic garden, Bali, Indonesia.

China's dependency on Indonesian bauxite for three-quarters of its import requirement has finally come to an end. As Chinese bauxite stocks wind down, alternative suppliers must come onstream and Australia, with the strongest pipeline of greenfields projects, is ideally placed to be the primary beneficiary. CRU Group consultant Michael Insulán breaks it down exclusively for *RESOURCESTOCKS*.

**F**EW CHINESE alumina refineries really believed that Indonesia's export ban would stick when it was introduced on January 12, 2014.

The general view was that it would be a repeat of the 2012 temporary ban and China was well prepared to handle a temporary dislocation of trade through the record bauxite stock build seen during 2013 and the first two weeks of 2014.

This sentiment has gradually changed and import based refineries in China are becoming increasingly worried about future bauxite supplies. China's smelting industry growth, meanwhile, is not notably decelerating. The logical consequence is a gradual shift towards greater bauxite and alumina import demand and, consequently, higher prices.

However, existing third party bauxite capacity is not sufficient to fill the void left by Indonesia and new projects need to come onstream very soon.

## MAJOR OPPORTUNITIES IN AUSTRALIA

The absence of Indonesia leaves a major void of gibbsitic bauxite, which cannot be filled by existing bauxite capacity. This gap represents an opportunity for prospective suppliers and Australia is by far the most active geography in terms of exploration and project evaluation.

CRU estimates that there are some 24 active projects in Australia at present, about a quarter of the global bauxite project pipeline. This makes sense as China looks to source bauxite from assets in close proximity. The majority of Australian projects are also non-integrated, specifically aimed at supplying Chinese refineries. But China is also looking

elsewhere and about a third of the world bauxite project pipeline is located in the Atlantic basin (although a larger proportion of these are integrated with alumina refineries).

These Atlantic projects should be seen both as a threat and an opportunity to Australian bauxite investors – a threat because they will displace a portion of bauxite ore that could be mined in Australia instead and an opportunity because Atlantic bauxite will be more costly for Chinese refineries due to the freight component. Australian sellers, consequently, will have greater pricing power and the chance to generate higher profit margins going forward.

## CURRENT SNAPSHOT

Weiqiao (Hongqiao Group) is the only company that has stated it is still hoping for a quota from Indonesia based on its refinery project with PT Harita at Kendawangan in West Kalimantan.

Moreover, in a recent bond issue, Fitch ratings agency wrote that Weiqiao was expected to secure bauxite exports from Indonesia. We doubt this is going to happen but it would certainly help Weiqiao, which is on track to become the world's biggest aluminium producer in 2015.

The shutdown of the Gove refinery has helped and Rio Tinto is pushing as much bauxite as possible. The balance is coming from much smaller suppliers but with the potential to grow.

Over the next five years, CRU anticipates several greenfield projects to come onstream, particularly in Australia. These will allow Shandong refineries to continue operating.

As Chinese refineries run down stocks later this year and into 2015, bauxite prices will





**“Australia is by far the most active geography in terms of exploration and project evaluation for gibbistic bauxite.”**

**MICHAEL INSULÁN**  
CRU GROUP

rise considerably on a China cost, insurance, freight basis because more ore will come from the Atlantic. These are disadvantaged by higher freight costs.

Slightly lower refinery utilisation rates in Shandong also mean that China has to import alumina, which will lead to higher alumina prices.

CRU thinks that alumina bottomed out in June and we are now seeing upward momentum since early August. CRU’s alumina price index (assessed on a Bunbury free-on-board basis) is edging up and our Atlantic basis price (assessed on a Port of Vila do Conde FOB basis) is growing even faster, narrowing the Atlantic discount.

#### A BIT OF HISTORY

China is the largest aluminium producer in the world and keeps growing thanks to relatively cheap electricity relating to stranded coal reserves in Xinjiang and Inner Mongolia.

Alumina and bauxite demand is growing at a proportional speed. Until 2005, China produced alumina domestically and imported the balance, predominantly from refineries in Australia.

Domestically produced alumina relied on monohydrate bauxite, which requires high temperature or ultra-high temperature refining. Because

of ore quality issues some additional processing is often required. It gets expensive.

A lower cost option is low-temperature refining but this requires trihydrate (gibbsite) ore, which is not found in China. Some entrepreneurial spirits started constructing low-temperature lines, predominantly in Shandong, and supplied these with the closest and cheapest gibbsite supply possible – from Indonesia.

Between January 2005 and January 2014, about three-quarters of China’s bauxite imports came from Indonesia. The balance came from Australia (mainly) and India (intermittently).

But in 2013, in anticipation of the Indonesian unprocessed minerals export ban, Chinese refineries also began taking bauxite from other places in the Pacific (mainly Fiji) as well as from the Atlantic region – Brazil, western Africa (mainly Guinea), Dominican Republic and Jamaica.

When Indonesian bauxite stopped flowing from January 12, 2014, luckily China had built up stockpiles during the course of 2013 and the first two weeks of 2014. Stockpiles vary by refinery. Cash rich companies like Weiqiao ended 2013 with almost a year’s worth of stock, cash poor companies like Lubei Chemical had only a few months of stock.

Utilisation rates in Shandong fell a

bit but not drastically in the first half of 2014. Most companies are keeping up production based on stockpiles or continued imports. But those based on continued exports are paying a higher price than previously (for example, one refinery went from paying \$35 per tonne to \$80/t for bauxite, China CIF).

#### WHAT CHANCE OF INDONESIA RESTARTING EXPORTS?

Joko Widodo (“Jokowi”), who many see as a pragmatic businessman, a man of the people rather than the elite, was announced president of Indonesia in July, with the new government set to be inaugurated on October 20.

Darmawan Prasadjo, an economic adviser to Jokowi, has indicated that the government will be fair to the country’s mining industry.

“If you want to build a smelter, what do you need? Well, for now, exports should be opened and power stations need to be built to meet their electricity needs, with competitive rates,” he said.

Freeport appears to have benefited from this pragmatism. However, Indonesian Chief Economic Minister Chairul Tanjung says the same rationale does not apply to bauxite.

What is the likelihood of bauxite starting to flow out of Indonesia again en masse? We think it is limited and here is why:

#### • Employment argument

It is frequently argued that the labour involved in Indonesian mining means that local governments in West Kalimantan and Bintan (the latter to a smaller extent) will do everything in their power to convince the federal government in Jakarta to change the ministerial regulations that disallow bauxite exports. However, while Indonesia’s mining industry as a whole – considering only direct labour – employs some 1.64 million people, direct labour in the bauxite mining industry is estimated at a mere 21,000 people.

As the total working age population of Indonesia is some 115.55 million people, only 0.018% is accounted for by bauxite mining. If we include an estimate of some 160,000 people involved in bauxite in secondary and tertiary economies, the proportion of Indonesia’s working population involved in bauxite rises to only 0.14%. This is unlikely to have much impact on federal government decision making.

#### • Current account argument

It is also frequently argued that Indonesia’s current account will suffer

from the unprocessed minerals export ban. Mining is indeed important to Indonesia – it accounted for 31.2% of total commodity exports from Indonesia since January 2005.

However, if one dissects the mined commodities segment, bauxite only represents 0.8% of the total mined commodity export value over the same period.

This reinforces our assumption that the Indonesian government will amend export regulations on a commodity-specific basis rather than making general changes. It is likely that an export ban remains in place in the case of bauxite.

#### • Resource argument

Indonesian bauxite reserves are not endless and they have fallen dramatically over the past few years.

At 2013 production levels, there is less than 15 years of bauxite remaining – the vast majority of this is located in West Kalimantan, as Bintan deposits are nearly depleted. If exports are not stopped, there will not be enough high quality bauxite left to support domestic refineries in the future.

#### • Political argument

Jokowi has voiced strong support for the unprocessed minerals export ban although he also seems quite willing to concede some allowances if ore processing facilities are constructed.

Weiqiao was previously considered a likely candidate for a bauxite quota based on progress at the Kendawangan refinery – a joint venture with PT Harita – for example. However, such quota now seems more distant, with Weiqiao recently announcing that it has found sufficient bauxite to replace the shortfall from Indonesia, at least temporarily.

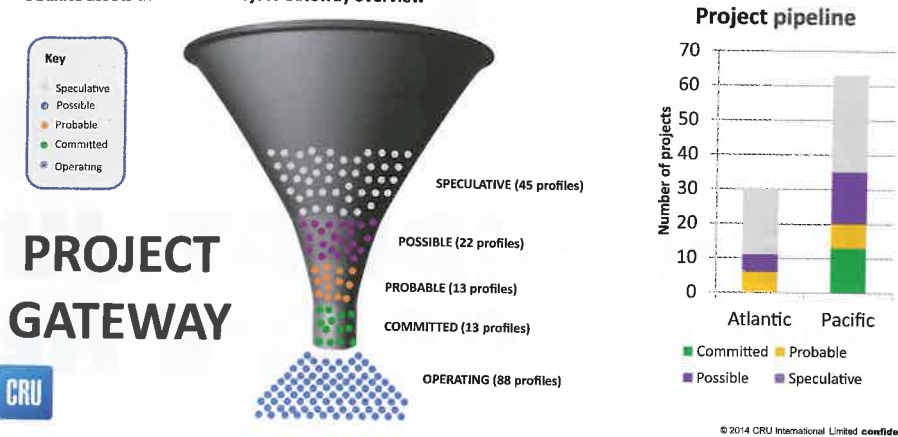
Jokowi supports the law regardless of the fact that Hatta Rajasa – the running mate of the opposing presidential candidate, former army general Prabowo Subianto – was one of the main authors of the ministerial regulations interpreting the law.

Subianto and Rajasa have been indifferent to this issue, while Jokowi is pragmatic. A key indicator is the deal with Freeport where the export tax agreement went from 20%, rising over the next 7.5% and falling until construction of a smelter.

Jokowi and his presidential running mate Jusuf Kalla said they were willing to compromise with companies that would really build refineries in Indonesia. However, Tanjung recently said there was no way the government would backtrack on the bauxite export ban. So the

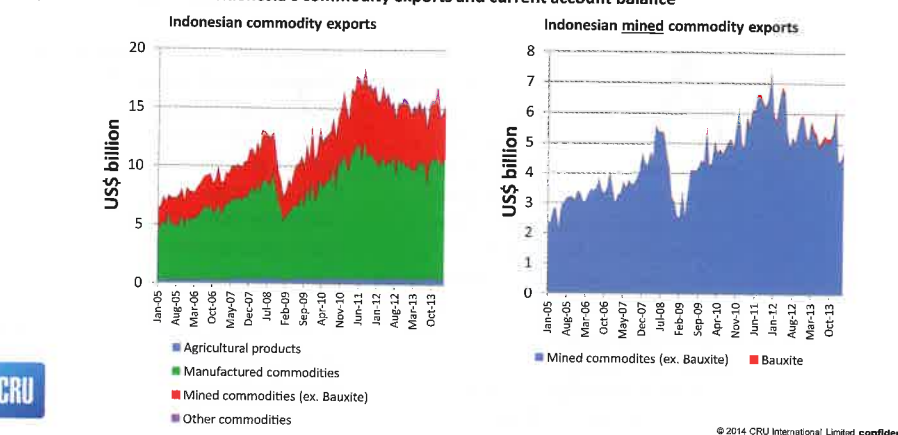
CRU’s bauxite mine and project profile database includes some 181 assets, of which 88 are operating mine and 93 are projects

Bauxite assets database – Project Gateway overview



The mining sector is an important contributor to Indonesia’s exports, but bauxite accounts for only a small part of this

Importance of bauxite to Indonesia’s commodity exports and current account balance



government will continue to treat commodities selectively.

#### OTHER FACTORS AT PLAY

Indonesia is not the only factor putting upward pressure on aluminium raw material prices.

The Indian government recently announced an increase of the bauxite export tariff from 10% to 20%.

Similarly, future exports from Australia might be hampered by environmental regulations and in Guinea, for bauxite exports to grow, major infrastructure investments have to be made. Similar problems afflict other bauxite-rich countries around the world.

Aluminium raw materials, consequently, are no longer in the backwater of the commodity industry. Bauxite and alumina are among CRU’s top performing commodities over the next five years. In the future, more value will be generated in the aluminium upstream, in particular bauxite mining.

#### WILD CARDS

Small-scale Shandong refineries might shut down, others may curtail capacity.

We think the risk was very

high earlier this year but now that aluminium and alumina prices are on the rise, the risk is diminishing.

Some Shandong producers may relocate to other provinces in China with readily available bauxite, others may refurbish to take monohydrate ore. However, the cost of refurbishing low-temperature refineries to take monohydrate ore is quite high and companies are holding out to see what happens with Indonesia and alumina prices.

China’s government is pushing hard for domestic bauxite exploration and they are finding quite a bit. Still, this is monohydrate ore that is costly to process.

The biggest wild card is alumina from coal ash in Inner Mongolia and Xinjiang. There is a lot of coal with high alumina content and there are lots of projects in the pipeline.

However, it is tremendously expensive to extract this so we’re waiting for a technological breakthrough before this puts a dent in China’s bauxite demand. **RS**

London-based Michael Insulán is principal consultant at CRU Analysis and its team leader for aluminium raw materials.

China began to import a larger proportion of bauxite from the Atlantic since early 2013, supporting a higher floor price for bauxite in the Pacific

Chinese bauxite imports by origin (monthly, January 2005 – May 2014)

