

# Pilbara Minerals stands out in lithium space

Its impressive resource, expected low-cost production, building off-take position and downstream processing options set Pilbara Minerals (ASX: PLS) apart from other lithium-focused juniors. **Ngaire McDiarmid reports**

**I**MPROVING THE MAIDEN ORE reserve at Pilbara Minerals' 100%-owned flagship Pilgangoora lithium-tantalum project is almost a moot point.

The cashed-up company is poised to capitalise further on the strength in the lithium market as it powers towards development at its globally significant resource.

The Pilgangoora Definitive Feasibility Study (DFS) is due in late August, its first binding off-take agreement was signed in July, construction is slated for later this year and mining is expected to begin mid-2017.

Pilgangoora's maiden ore reserve of 29.5 million tonnes (Mt) at 1.31% lithium oxide, 134ppm tantalum pentoxide and 1.18% iron oxide could, according to the March pre-feasibility study, support a 2Mt per annum mining and processing operation over 15 years with an internal rate of return of 44%.

However, the project just keeps growing thanks to a successful drilling programme, which resulted in a 134% increase to Pilgangoora's resource in July, further cementing the company's view that Pilgangoora is the world's largest published hard rock lithium resource.

Managing director and CEO Ken Brinsden said the resource was likely substantially larger than the total 128.6Mt, and the sheer size of the pegmatite system means drilling to create further resources "starts to become academic".

Accordingly, while Pilbara embarks on its rapid path to production, it has also broadened its focus to tee up

off-take agreements, evaluate conventional and new downstream processing options and strategically position the company for long-term growth.

The company is well-funded to progress to production thanks to a A\$100 million capital raising in the second quarter, with both the \$85M share placement and \$15M share purchase plan heavily oversubscribed.

Brinsden said the Pilgangoora project metrics and its location, just 120km from Port Hedland in one of Western Australia's premier mining districts, set it apart.

He said the company had worked hard to establish the lithium resource "when it wasn't sexy to do so" and its location, size, grade and quality were key drivers to maintaining a low cost base.

The former Atlas Iron managing director is keenly aware of mining's cyclical nature, having been part of the phenomenal growth in iron ore then witnessing the industry under pressure as prices slumped.

"The constant that comes out of that, is to be an enduring miner you have to ensure you've got the right cost base," he said.

"It's an amazing discovery, it's in the right location and we'll be mining a high-grade product, especially once you include the tantalite by-product and with all that in mind, we will be one of the world's lowest-cost hard-rock lithium mines globally, and that's a key point of difference.

"For those reasons, we'd say it's the world's leading lithium development project and will



be a big part of the supply solution to fit what we see as really significant demand growth for lithium."

Brinsden foresees the growth in electric vehicles, pushing up the demand for lithium-ion batteries, akin to the exponential rise in smart phones since their release just over 10 years ago.

"Electric vehicles and bikes currently represent about 3% of the global lithium market but I think by 2026 they'll be such a big part of our lives they'll be taken for granted," he said.

Meanwhile, Pilbara intends to systematically convert a series of off-take discussions into binding agreements and is also investigating both conventional and new downstream processing options.

Pilbara has signed eight Memoranda of Understanding with leading chemical and technical grade customers for 100% of forecast production, and in early July inked its first binding off-take and downstream processing agreement with Chinese company General Lithium.



Pilbara is building on this relationship and has since travelled to Malaysia to progress discussions on their proposed joint lithium chemicals plant.

The desktop scoping study on the plant is expected by the end of August and Brinsden said if it was positive, the joint venture would immediately proceed to a DFS on the plant, applying General Lithium's expertise to produce lithium carbonate and hydroxide products.

"The General Lithium offtake agreement represents a fantastic tool for the company to continue to grow," he said.

"General Lithium provides the technology and knowhow for the lithium chemical plant, facilitating Pilbara's participation in downstream markets much faster and with less risk than would typically be the case if we were developing our own facilities.

"Ultimately, that's where the real growth lies for Pilbara – moving to a longer-term strategy whereby we become a participant in downstream markets rather than an intermediate product supplier."

The interest in the off-take agreement demonstrates its value to Pilbara, Brinsden said.

Under a previous agreement, Global Advanced Metals Wodgina has a 45-day right of first refusal on Pilbara's Pilgangoora lithium sales, which must be exercised in the coming weeks or revert to a 2.5% net smelter royalty.

In addition to the conventional processing approach, Pilbara is also evaluating a new, low-cost technology with ASX-listed Lithium Australia.

Lithium Australia owns the Sileach™ process, a proprietary hydrometallurgical process that has produced lithium carbonate from spodumene – without roasting – in successful laboratory tests.

"The conversion of spodumene has been underinvested for decades," Brinsden said.

"Given everyone's attention is now turning to new technology and how it could be applied to the lithium industry, we also feel it's important we've got our toe in the water there.

"Some of the technology has

demonstrated really positive results for Pilgangoora ore, so we're happy to be supportive and continue growth along those lines."

Subject to further positive test work, the joint venture would then evaluate setting up a large-scale pilot plant, potentially in Port Hedland.

Pilbara Minerals bolstered its board in July as it transitions from explorer to joining the ranks of Australia's mid-tier miners.

Highly experienced mining executive Tony Kiernan was appointed non-executive chairman and former KPMG chairman of partners Steve Scudamore joined as an independent non-executive director.

Brinsden said the company would benefit from the refreshed skills base as it evolved into a producer.

"Both Tony and Steve have really high-quality, long-standing reputations in the WA and Australian mining industry and we're really lucky and pleased with their involvement," he said.

He also paid tribute to outgoing chairman Tony Leibowitz, who was instrumental in the company's initial growth and recent A\$100 million capital raising.

The company's further potential is perhaps best described by the enviable predicament Brinsden has on his plate at Pilgangoora.

Every sterilisation hole the company drills – to determine where to place infrastructure – keeps finding more high-quality mineralisation.

"It's a running joke around here that the sterilisation drilling hasn't been going well," Brinsden said.

"Every time we drill a sterilisation hole, we hit more ore.

"So those are the sort of things that give us confidence that the system as a whole is enormous and what we are discovering looks a lot like what we've already got in the ground: fantastic grade characteristics, decent tantalum by-product and metallurgical properties supporting high recovery rates.

"Pilgangoora is going to be a low-cost, long-standing mine, it has substantial potential for growth as the lithium market continues to grow and we're confident the amazing resource will be an important part of the lithium supply solution." ■

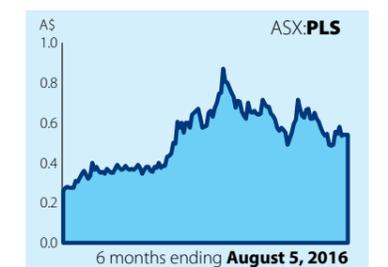
Over 45,000m of drilling has been undertaken since March 2016



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– KEN BRINSDEN  
MANAGING DIRECTOR AND CEO

## PILBARA MINERALS LTD AT A GLANCE



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### DIRECTORS

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Ken Brinsden  
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Robert Adamson  
John Young  
Steve Scudamore

### QUOTED SHARES ON ISSUE

1,149.4 million

### MARKET CAP

A\$620.7 million

Above: Central Domain infill RC drilling. Above right: HQ core drilling for metallurgical test work. Below: Central Area core drilling