



AGREEMENT WITH LITHIUM AUSTRALIA TO EVALUATE PROCESS FOR LITHIUM CARBONATE PRODUCTION IN WA

Pilbara Minerals Limited (PLS: ASX) ("Pilbara" or "the Company") is pleased to advise that it has reached agreement with Lithium Australia NL (ASX: LIT) to jointly evaluate the commercial potential of a new low-cost processing technology for the production of lithium carbonate.

As outlined previously, Pilbara has been investigating opportunities to participate in future value-adding and downstream processing ventures leveraging off the strong foundations of its core business, which is based on the development and operation of its 100%-owned Pilgangoora Lithium-Tantalum Project in Western Australia.

Pilgangoora is on track to become a leading supplier of high-quality spodumene concentrates to the global lithium market within the next 18 months. However, there is also a significant opportunity for Pilbara to move up the value chain and enhance its future competitiveness by participating in lithium conversion, allowing it to benefit from the significant margins on offer in the lithium carbonate and hydroxide markets.

The Company recently commissioned a positive independent Scoping Study by a highly regarded global engineering firm into the opportunity to construct a lithium carbonate/hydroxide plant in Port Hedland, in conjunction with partners. It has also been reviewing the latest R&D work into technologies which could reduce the costs for converting spodumene into lithium carbonate and lithium hydroxide, offering the potential to further improve relative operating cost performance to alternative sources of supply.

Lithium Australia owns the Sileach™ Process, a proprietary hydrometallurgical process designed to recover lithium from spodumene concentrates. Unlike conventional processes, the Sileach™ Process does not require a roasting step, and therefore has the potential to be much more energy efficient. Reduction of energy consumption, together with the potential to recover valuable by-product credits, may provide cost efficiencies which were not previously possible.

The Sileach™ process has been successfully tested in the course of bench testing at a number of laboratories. The recent results from testing of concentrates from Pilgangoora, and other spodumene sources, have provided sufficient encouragement to progress to pilot testing at the ANSTO Minerals facility, located at Lucas Heights in New South Wales.

Under the agreement, Pilbara will work with Lithium Australia to progress the commercial evaluation of the Sileach™ Process, initially through a pilot testwork program to be undertaken at ANSTO in the second half of 2016. This testwork program is scheduled to commence in the near future.

Pilbara will provide, at its cost, 1 tonne of spodumene concentrate at a grade of no less than 4% Li₂O for the purpose of undertaking this pilot testwork program, while Lithium Australia will cover all capital costs for establishing the pilot plant. The parties will share equally in the operating costs of the pilot plant program (estimated to be approximately \$400,000).

If the program is successful, the parties will commit to form a 50/50 joint venture and undertake a Pre-Feasibility Study on the establishment of a large-scale pilot plant facility in the Port Hedland area, the capital cost of which would be met by Lithium Australia.



Pilbara's Managing Director and CEO, Ken Brinsden, said the agreement with Lithium Australia provided a low-cost, low-risk opportunity to jointly evaluate a new downstream processing technology which could ultimately pave the way for Pilbara to participate in the development of a lithium conversion facility in WA.

"The conversion technology for lithium has barely changed in the past 50 years as, until recently, the lithium sector has not attracted the R&D investment required to revolutionise the conversion processes," he said.

"That situation is now changing rapidly as a result of the transformational growth that is occurring in the lithium market, and there is potential for technology to drive a quantum shift in the industry. We would like to position Pilbara in the best possible way to participate in and benefit from these developments, and we are pleased to be working with an Australian company which is currently at the forefront of this new wave of R&D in the lithium sector.

"Lithium Australia's hydrometallurgical process has been successfully tested at ANSTO Minerals in Sydney at a laboratory scale, achieving lithium extractions of greater than 90 per cent with as little as four hours of leaching," Mr Brinsden said. "This work has paved the way for a pilot testwork program that is planned to commence shortly under the newly established joint venture, which is initially being formed on a 50/50 basis.

"Subject to a positive outcome, we would envisage moving ahead with further project works to investigate the viability of jointly developing a lithium conversion facility – most likely in Port Hedland," he added. "While our team remains focused on delivering the Pilgangoora Project in the first instance, keeping our finger on the R&D pulse and assessing downstream processing options is also important to the future success of the Company."

More Information:

ABOUT PILBARA MINERALS

Pilbara Minerals ("Pilbara" – ASX: PLS) is a mining and exploration company listed on the ASX, specialising in the exploration and development of the specialty metals Lithium and Tantalum. Pilbara owns 100% of the world class Pilgangoora Lithium-Tantalum project which is the second largest Spodumene (Lithium Aluminium Silicate) project in the world. Pilgangoora is also one of the largest pegmatite hosted Tantalite resources in the world and Pilbara proposes to produce Tantalite as a by-product of its Spodumene production.

ABOUT LITHIUM

Lithium is a soft silvery white metal which is highly reactive and does not occur in nature in its elemental form. It has the highest electrochemical potential of all metals, a key property in its role in Lithium-ion batteries. In nature it occurs as compounds within hard rock deposits and salt brines. Lithium and its chemical compounds have a wide range of industrial applications resulting in numerous chemical and technical uses. A key growth area is its use in lithium batteries as a power source for a wide range of applications including consumer electronics, power station-domestic-industrial storage, electric vehicles, power tools and almost every application where electricity is currently supplied by fossil fuels.

ABOUT TANTALUM

The Tantalum market is boutique in size with around 1,300 tonnes required each year. Its primary use is in capacitors for consumer electronics, particularly where long battery life and high performance is required such as smart phones, tablets and laptops.

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