

**28 June 2016**

## **ASX ANNOUNCEMENT**

### **Lithium Australia and Pilbara Minerals to jointly progress Sileach™ technology for potential future production of low-cost lithium carbonate in WA**

#### **HIGHLIGHTS**

- Lithium Australia and Pilbara Minerals agree to work together to investigate the suitability of LIT's Sileach™ process to produce high-value lithium carbonate
- Subject to the success of pilot testing of concentrates sourced from Pilbara's Pilgangoora Project, the parties have agreed to establish the Sileach Joint Venture (SJV)
- Initial participation in the SJV will be 50/50
- SJV pilot testing of Pilgangoora and other concentrates to commence in the near future
- SJV's goal is to be a lowest quartile lithium carbonate producer

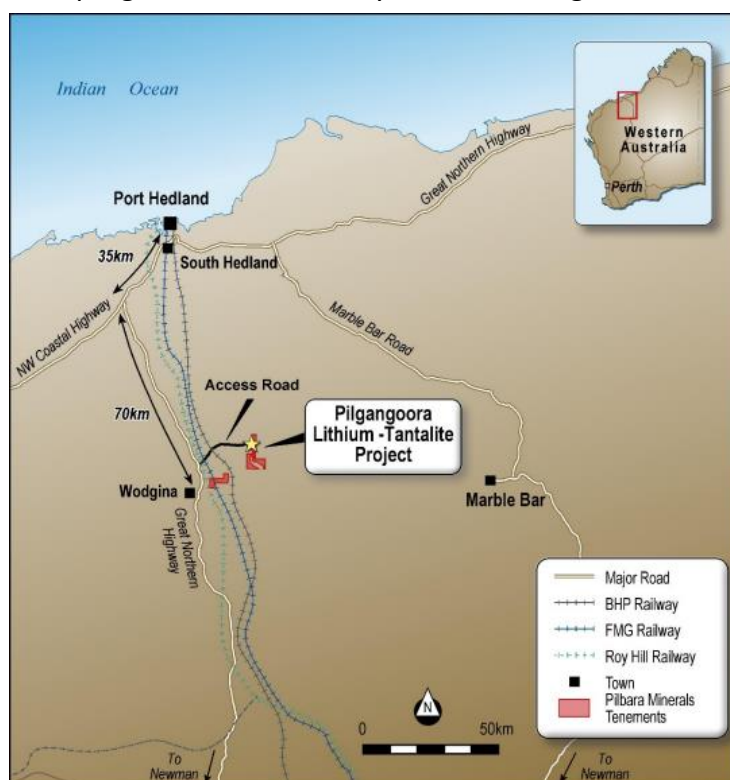
#### **INTRODUCTION**

Lithium Australia NL (ASX: LIT) is pleased to announce that it has reached agreement with Pilbara Minerals Limited (ASX: PLS) to jointly progress the development of LIT's 100%-owned Sileach™ process, which has been developed to recover lithium from spodumene concentrates.

Subject to the outcome of series of testwork programs and feasibility studies, the agreement could pave the way for the formation of a 50/50 joint venture with Pilbara (the Sileach Joint Venture or "SJV"), which will aim to commercialise the Sileach™ process and investigate the viability of jointly developing a lithium conversion facility.

Such a facility, if it proceeds, would potentially source spodumene concentrate from Pilbara's 100%-owned Pilgangoora Lithium-Tantalum Project and could be used to process feed from other Pilbara lithium mineral producers by agreement of the joint venture partners.

The current preferred location of the processing plant is Port Hedland, WA, near Pilbara's Pilgangoora Project.



The agreement follows successful lithium extraction from spodumene by ANSTO Minerals (a division of the Australian Nuclear Science and Technology Organisation) in which lithium extractions of greater than 90% were achieved in as little as four hours.

Unlike conventional lithium recovery from spodumene, the Sileach™ process does not require roasting, resulting in a much more energy efficient process and potential to compete with the world's lowest cost producers.

## **COMMERCIALIZATION PROGRAM**

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 consider pilot testing at the ANSTO Minerals facility, located at Lucas Heights in New South Wales.

In the event of successful testing at ANSTO Minerals, the SJV partners may then elect to proceed with construction of a larger-scale pilot plant, for which Port Hedland is currently the preferred location. The plant will be designed and constructed on such a scale as to be operating cost neutral, i.e. with the ability to recover costs through the production of commercial lithium chemicals and by-products.

Operation of the larger-scale pilot facility will be a milestone step in commercialisation of the Sileach™ process, and will be used to demonstrate the viability of the process for funding purposes.

## **THE SJV TRANSACTION**

Obligations of the parties, under the terms of the agreement, are as follows:

### Initial pilot tests at ANSTO Minerals

- LIT will cover the capital cost of pilot testing;
- PLS will supply the required spodumene concentrates for testing; and
- Operating costs for the tests will be split 50/50.

### Large-scale pilot testing

- Plant designed to produce commercial lithium carbonate and recover by-products;
- LIT to cover capital cost of the plant;
- PLS to provide the spodumene concentrates; and
- Costs to be recovered as follows:
  - Firstly recovering capital costs;
  - Secondly recovering operating costs; and
  - Thirdly, paying PLS cost price for the spodumene concentrate.

### Definitive Feasibility Study

Data generated from operating the large-scale pilot plant will be used to complete engineering design and feasibility investigations for the construction of a full-scale commercial Sileach™ processing plant. The Feasibility Study will be managed by LIT.

### Commercial Sileach™ processing plant

In the event of a positive outcome of the Definitive Feasibility Study, the SJV will advance to commercial production, including finance and construction, on a 50/50 basis. The key terms of this joint venture will include:

- LIT will be the first manager of the SJV;
- PLS to provide feed to the SJV on a priority basis

## **THE BUSINESS CASE**

**The successful development of a commercial hydrometallurgical process to recover lithium from spodumene would place the SJV at the leading edge of the lithium industry. Unlike conventional processes, the Sileach™ process does not require a roasting step, therefore providing 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.**

**In assessing the suitability of the Sileach™ process for use with Pilgangoora concentrates, the SJV's aim is to be in the lowest cost quartile for lithium carbonate production.**

**Managing director, Mr Adrian Griffin:**

**“The agreement with Pilbara Minerals is a very important step towards Lithium Australia’s goal of becoming a lowest cost quartile lithium carbonate producer. Successfully combining PLS’ Pilgangoora spodumene concentrates with the low-energy Sileach™ process has the potential to add enormous value to both parties and may allow the SJV to deal directly with the lithium chemical consumers, including the battery manufacturers . This is a great deal for LIT, PLS and for Western Australia’s burgeoning lithium processing industry.”**

### **Adrian Griffin**

Managing Director

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### **About Lithium Australia NL**

LIT is a dedicated developer of disruptive lithium extraction technologies including the versatile Sileach™ process which is capable of recovering lithium from any silicate minerals. LIT has strategic alliances with a number of companies, potentially providing access to a diversified lithium mineral inventory globally.

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