

**21 November 2018**

## **ASX ANNOUNCEMENT**

### **OUTSTANDING LITHIUM RECOVERY FROM LITHIUM AUSTRALIA'S GEN-2 SILEACH® PILOT-PLANT RUN AT ANSTO**

#### **HIGHLIGHTS**

- **Lithium recovery from feed into product greater than 90%**
- **High-quality tri-lithium phosphate produced from single-pass precipitation circuit**
- **A further demonstration of the potential to use waste material not suitable for conventional processing**
- **Tri-lithium phosphate produced currently being assessed for battery production**
- **Battery performance testing results to be released shortly**

Lithium Australia (ASX: LIT) advises the commencement and successful completion – on 7 and 11 September 2018 – of its two-stage pilot-plant campaign at the ANSTO Minerals (ANSTO) facility at Lucas Heights in NSW. Final reporting and data analysis by ANSTO supports overall recovery to a product containing 90 to 95% tri-lithium phosphate (Li<sub>3</sub>PO<sub>4</sub>).

Unlike thermal conversion processes, SiLeach® is not limited by ore feed size or the inclusion of impurities. For Lithium Australia, such an outstanding overall recovery result underscores the potential of the process to significantly improve resource utilisation via the treatment of finer ore feeds.

The ranges of major element concentrations for the tri-lithium phosphate produced at ANSTO on a continuous basis are shown below.

	Li <sub>3</sub> PO <sub>4</sub>	Fe	K	Na	F	S	Ca
Analysis % w/w	90 – 95	0.0019	0.25 – 0.35	0.15 – 0.25	0.0025 – 0.0035	0.51 – 0.57	0.02 – 0.03

**Typical ranges for major element concentration.**

This promising product quality was in line with expectations and, in fact, there remains significant room for improvement, with the inclusion of several up-stream changes to impurity removal and modification of final lithium phosphate precipitation unit processes. To achieve such good results, a novel process for fluorine and calcium removal was developed, and this has been included in the relevant SiLeach® patent applications as a part of Lithium Australia's ongoing IP protection strategy.

Further optimisation of impurity removal and/or refining options for tri-lithium phosphate are in development and will be included in the extended duration gen-3 pilot-plant campaigns for SiLeach® planned for 2019.

A sample of the tri-lithium phosphate produced during the gen-2 pilot-plant campaign is now being tested at Lithium Australia's 100%-owned subsidiary VSPC Ltd. Currently, VSPC is commercialising efficient, cost-effective process technology for the manufacture of high-performance battery cathode materials. The VSPC program includes the production and testing of lithium ion batteries made from this material.

If VSPC's tests on the SiLeach<sup>®</sup>-produced tri-lithium phosphate prove positive, Lithium Australia can bypass the lithium hydroxide/carbonate route for producing battery precursors that is dictated by conventional lithium processing methods.

Results of the VSPC cathode powder and lithium ion battery testing will be reported shortly.

#### **COMMENT FROM LITHIUM AUSTRALIA MANAGING DIRECTOR ADRIAN GRIFFIN**

"We are extremely pleased with the SiLeach<sup>®</sup> outcomes and process development work being conducted at ANTSO. Such positive results bolster our intent to move forward with a Large-Scale Pilot Plant for SiLeach<sup>®</sup> and recover and convert contaminated mine wastes into lithium chemicals. It's all part of our plan to develop a vertically integrated lithium production business, by providing sustainable technologies to the battery industry. These results clearly demonstrate the potential to achieve greater utilization of existing resources and reduce the environmental pressure created by the increased demand for energy metals."

**Adrian Griffin – Managing Director**

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#### **ABOUT LITHIUM AUSTRALIA NL**

Lithium Australia aspires to 'close the loop' on the energy-metal cycle in an ethical and sustainable manner. To that end, it has amassed a portfolio of projects and alliances and developed innovative extraction processes to convert *all* lithium silicates (including mine waste) to lithium chemicals. From these, the company plans to produce advanced components for the lithium-ion battery industry. The final step for Lithium Australia involves recycling of spent batteries and e-waste. By uniting resources and the best available technology, Lithium Australia seeks to establish a vertically integrated lithium processing business.

For more information visit:

[www.lithium-au.com](http://www.lithium-au.com)

[www.vspc.com](http://www.vspc.com)

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