Forging a world-class lithium enterprise

Lithium Australia unveils its Sileach™ process: innovation in the production of premium lithium chemicals
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COMPETENT PERSON’S STATEMENT
The information in this report that relates to reporting of Exploration Results is based on and fairly represents information and supporting documentation prepared by Adrian Griffin, a member of the Australasian Institute of Mining and Metallurgy. Mr Griffin is a shareholder in, and managing director of, LIT and has sufficient experience relevant to the style of mineralisation and type of deposit under consideration. He is qualified as a Competent Person as defined in the 2012 edition of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves. Mr Griffin consents to the inclusion in this report of the matters based on information in the form and context in which it appears.
Innovation in the production of premium lithium chemicals

The plan

Lithium Australia (LIT) will commercialise its proprietary Sileach™ technology, establishing mineral treatment hubs that supply premium lithium chemicals reliably and cost-effectively to fuel the lithium power revolution for decades to come.

The assets

Technology
- **Sileach™** versatile process for all lithium silicates – 100% LIT.
- **LieNA™** lithium from spodumene in caustic solution – 100%.
- **L-Max®** exclusive processing rights for use in Western Australia (WA) and two projects internationally. The ultimate beneficial owner of L-Max® is currently Platypus Minerals Ltd.

Projects
- Six exploration projects in WA.
- One exploration project in the Northern Territory and one in Queensland.
- Mexican joint venture with Alix Resources.
- Sileach™ development agreement with Pilbara Resources for spodumene processing.
- Significant shareholding in LiGeneration Ltd.
Innovation in the production of premium lithium chemicals

**Aspirational statement**

LIT plans to capitalise on the significant premium afforded producers of lithium chemicals.

- Global production of lithium chemicals is about 200,000 tonnes lithium carbonate equivalent (LCE).
- By establishing global processing hubs, LIT will reap the benefit of the premium added when mineral concentrate is converted to refined lithium chemicals.
- Spot carbonate prices have risen to over US$20,000 in 2016 providing an enormous opportunity to capitalize on the difference between concentrate production costs and lithium chemical prices.
Transforming the lithium supply chain

A combination of:
- Australia’s rich geological endowment of lithium minerals,
- the global distribution of stranded hard-rock lithium deposits, and
- Sileach™ lithium processing technology

has the potential to:
- unlock an abundance of feed opportunities,
- de-bottleneck supply chain constrictions created by Chinese converters, and
- capitalise on the demand for reliable supply from geo-politically safe sources.
A complete lithium supply solution

Chinese converters represent a major bottleneck in the supply chain that delivers lithium chemicals from hard-rock sources to end-users. At present, only China has the necessary conversion capacity. Consumers – and Japan in particular – are seeking supply from outside China.

LIT plans to:

- transform the supply chain
- increase production at the low end of the cost curve
- create a supply chain direct from the mine gate to the battery producer
- fill the gap created by increased demand for lithium chemicals.

To achieve its aims, LIT is working towards:

- controlling processing technology – Sileach™;
- commercialising the Sileach™ process;
- implementing key production hubs, and
- ensuring secure supply of lithium chemicals.
Controlling processing technology – *Sileach™*

*Sileach™* represents a mine-gate-to-consumer solution. A hydrometallurgical process ideally suited to the processing of spodumene, micas and off-specification lithium mineral concentrates, it produces high-purity lithium chemicals (hydroxide or carbonate) at a significant cost advantage compared to existing production. *Sileach™* has inherent advantages over processes involving roasting and leaching in that:

- processing occurs at atmospheric pressure;
- energy input is significantly lower;
- the carbon footprint is small;
- recovery from most lithium minerals is high, and
- extensive by-product credits are possible.

*Sileach™* can rapidly leach any silicate minerals.
Commercialising the Sileach™ process

LIT is working with the ANSTO Minerals, a division of the Australian Nuclear Science & Technology Organisation (ANSTO) to refine the process flow-sheet for Sileach™.

Stage 1 test work well underway to deliver:

- a process flow-sheet for commercialisation;
- operating parameters for the Stage 2 pilot plant, and
- design criteria for the Stage 2 pilot plant.

Stage 2 pilot plant:

- proposed location in Port Hedland;
- anticipated output of 2,000 tpa of saleable lithium carbonate output, and
- anticipated feed of up to 400,000 tpa concentrates.

The path to commercial production

- **Lab testing**: In progress
- **Pilot testing at ANSTO**: August 2016
- **Commitment to demonstration plant**: December 2016
- **Commercial production**: On completion of financing
Controlling production hubs

In June 2016, LIT and Pilbara Minerals Limited (ASX:PLS) announced plans to jointly progress Sileach™ for potential future production of low-cost lithium carbonate in WA on a 50/50 basis.

Strong drivers for commercial development of a Sileach™ plant as a toll-treatment hub based at Port Hedland include the following.

- The location is strategically advantageous, due to its proximity to abundant supply sources, which will lower shipping costs to converters in northern Asia.
- The federal government is supporting the commercialisation of Sileach™ with research grants, while the WA state government is assisting with site procurement for the initial processing plant.
Ensuring secure supply of lithium chemicals

LIT is developing corporate alliances to supply feed to regional processing hubs. The first alliance was signed with Pilbara Minerals (ASX:PLS) in June 2016.

LIT will also ensure feed to regional hubs by developing its own project as a supply backup (or a primary source where appropriate). To implement this strategy, LIT has taken strategic project positions in the following locations:

- Pilgangoora
- Ravensthorpe
- Coolgardie/Kalgoorlie
- Lake Seabrook
- Lake Johnston
- the Gascoyne
- Greenbushes
- the Northern Territory
- Cape York, Queensland
- Mexico.
What’s next?

- Finalising construction of the pilot plant with ANSTO.  Q3 2016
- Operating the pilot plant.  Q3-Q4 2016
- Completing the study.  Q4 2016
- Deciding whether to proceed to a continuous, site-based pilot plant.  Q1 2017
- Undertaking ongoing exploration programmes.
Company snapshot

LIT is the only company worldwide with the ability to process all lithium silicates without roasting.

BOARD OF DIRECTORS

George Bauk (non-executive chairman)
Expert in specialty metals, particularly rare earths – project management, marketing and financing.

Adrian Griffin (managing director)
Exploration, production, mine management.

Bryan Dixon (non-executive director)
Corporate, finance, mine development.

ASX ticker: LIT

- 232 M Ordinary Shares
- 133 M Partly Paid Shares
- 22 M Unlisted Options
- 1 M Performance Rights
- $6 M Cash at bank 30 June 2016
- Market cap. $61M (July 2016)

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