



Corporate Position Statement, August 2017

Adrian Griffin
Managing Director
ASX: LIT

Lithium Australia – corporate snapshot

(ASX-listed: ticker LIT)

Lithium
Australia^{NL}

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.

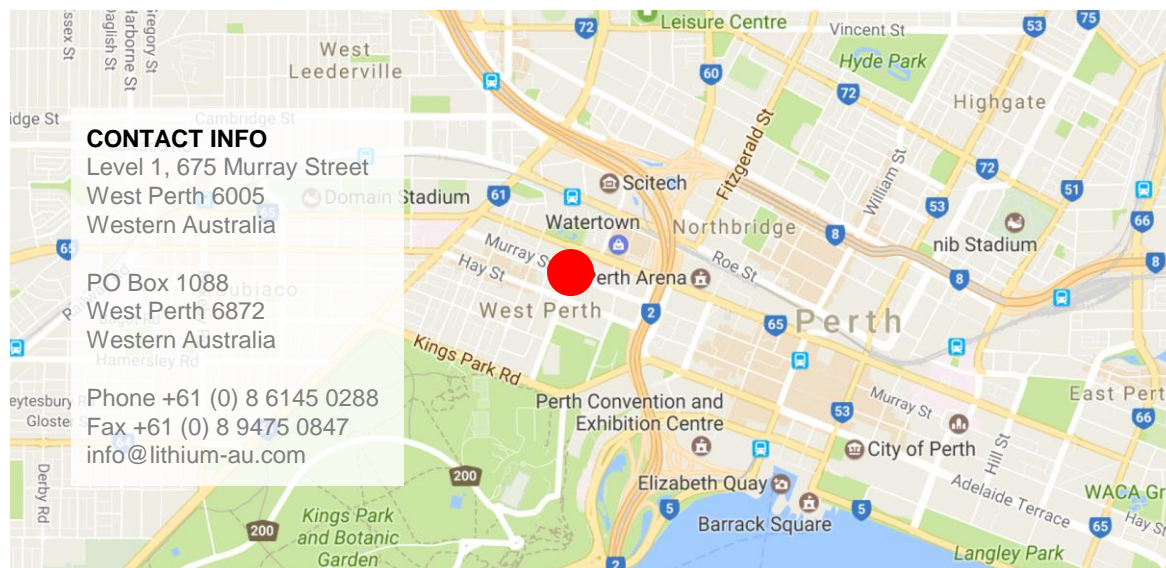


Bryan Dixon
(non-executive director)

Corporate, finance, mine development.

Price (AU\$) as of 28 July 2017	0.13
Market capitalisation (AU\$)	42.7 M
Shares outstanding (LIT)	296,931,239
Partly paid shares (LITCE)	132,850,148
Cash position (AU\$)	2.57 M
Debt position (AU\$)	NIL

Investment portfolio includes AU\$6 million equity in other lithium companies and a substantial exposure to gold exploration in Western Australia.



Top 10 holders at 28 July 2017	22.2%
JP Morgan Nominees	4.76
Citicorp Nominees	3.66
Adrian Griffin	3.01
Parkway Minerals NL	2.57
Horn Resources	1.97
Alan Jenks	1.32
Apollinax Inc.	1.15
TA Securities Berhad	1.1
Gasmere Pty Ltd	1.06
BNP Paribas	1.06

Lithium – what's all the fuss about?



It's about the biggest change in energy management since the Industrial Revolution ...

The harnessing of energy has progressed from domesticating beasts of burden through steam power to internal combustion engines and portable nuclear reactors. And, while the latter systems can generate electricity, the ubiquitous power grid has constrained true power portability ... until now: the 'age of lithium'.

The advent of lithium-ion batteries (LIBs) has created not only efficient energy storage but also a revolution in the portability of power. LIBs can be used in everything from ever-smaller electronic devices, including mobile phones, tablets and computers, to a wide array of electric vehicles (EVs) and earthmoving equipment, not to mention renewable power back-up and the provision of emergency power for entire cities. LIBs allow renewable energy to be distributed 24/7, placing portable power in the hands of consumers and turning progressive households into energy traders. Put simply, **lithium is fuelling the Energy Revolution.**

Right now, though, more **lithium is rejected as waste** than enters the lithium supply chain. Which is why Lithium Australia is focused on processing lithium minerals currently consigned to the too-hard basket. The Company is currently developing hydrometallurgical processes to recover lithium from ANY lithium-bearing silicate, including sources not presently exploited by others. Importantly, many such sources are considered waste and discarded during other mining operations (including mining for tin, tantalum and a range of industrial minerals). Generally, this waste material is a lithium mica – which, in the case of hard-rock lithium mining, may include contaminated or low-grade spodumene, the principal ore mineral of lithium.

Recycling is imperative

Currently, only about 100 tonnes (t) of lithium carbonate equivalent (LCE) of the 217,000 t consumed annually is reclaimed via recycling. Even then, next to none of the lithium that LIBs contain is recovered. Ultimately, this is unsustainable and could lead to the extinction of the LIB, the very innovation that's revolutionising power management worldwide. Also of immediate concern is the unsustainability of cobalt, another 'energy metal' essential to LIBs. Already demand for cobalt outstrips supply, and international protocols on the importation and use of this so-called 'conflict metal' are fast consigning it to the endangered list. But ever-expanding stockpiles of discarded electronic/battery waste might actually be the cheapest and best source of such energy metals, since they've already been mined and concentrated. All that's required is efficient recycling. Enter Lithium Australia.

Lithium Australia's plan



The primary goal of ASX-listed Lithium Australia (LIT) is to apply its disruptive processing technologies to the production of lithium chemicals on a commercial scale, at an operating cost in the lowest quartile.

LIT is, therefore, working diligently to commercialise its 100%-owned SiLeach[®] lithium extraction technology by way of the following.



Further, LIT is:

- procuring access to feed materials with low exposure to mining costs;
- processing materials considered waste by other operators;
- developing strong strategic partnerships, and
- ensuring long-term resource availability by maintaining equity in resource projects.

LIT's plan is well advanced. Already, pilot-testing of SiLeach[®] has resulted in the production of battery-grade lithium carbonate. Moreover, first-generation engineering studies for a large-scale pilot plant (LSPP) capable of producing 2500 t of lithium carbonate annually have been completed. They demonstrate the likelihood of SiLeach[®] providing a very competitive alternative to conventional processing, even before accounting for by-product credits.

Importantly too, the engineering studies have revealed areas in which both capital and operating costs can be significantly improved. Subsequent studies are examining how best to modify the process and implement changes to achieve far greater performance. LIT aims to complete the revised design and commit to construction of the LSPP by year's end, in order to demonstrate the commercial attributes of the SiLeach[®] process.

* A division of the Australian Nuclear Science and Technology Organisation.

** The LSPP, designed by CPC Engineering and the subject of the studies undertaken in May 2017, is being optimised prior to commencement of construction.

Lithium Australia's achievements



LIT's exclusive processing technologies give it the capability to recover lithium from ALL hard-rock minerals – without the expense of roasting.

SiLeach® – the future of lithium processing

LIT aims to replace the energy-intensive processes used by current spodumene 'converters' (located, for the most part, in China) to recover lithium from hard-rock sources. LIT's flagship SiLeach® technology, already pilot-tested and supported by independent engineering studies, has the potential to recover in-ground inventories with better energy utilisation than that of conventional processing.

Resource security

LIT plans to process materials supplied by existing mining operations, and has also taken exploration positions in major lithium provinces around the world, including Australia, Mexico, Canada and Europe, in order to ensure its future.

Strategic alliances

LIT has formed strategic alliances with ANSTO Minerals, Venus Metals Corporation Ltd, Alix Resources Corporation Inc., Deutsche Rohstoff and others.

Advanced exploration targets

LIT has completed first-pass drilling at Agua Fria in Mexico, has begun drilling at Ravensthorpe in Western Australia and is awaiting statutory permits to drill the Sadisdorf deposit in Germany. In addition, LIT is farming out projects in return for first right of refusal on future product, thereby mitigating exploration risk while retaining access to primary supplies.

Significant investment in energy materials

LIT has also invested in listed lithium companies MetalsTech (ASX: MTC – lithium and cobalt) Lefroy Exploration (ASX:LEX - gold) and Lepidico (ASX: LPD - lithium) and has a controlling interest in BlackEarth Minerals NL, a graphite exploration company currently preparing for a public float.

A corporate approach to a greener future



SiLeach® and sustainability

Lithium may well be fuelling the Energy Revolution, but at what cost? A mobile phone has run up an emissions debt before it's even unpackaged, while a new EV might have created the equivalent of eight years worth of hydrocarbon emissions before it leaves the showroom floor. The issue is the energy required to create the battery that powers the finished product.

As a low-energy, cost-effective alternative to conventional processing of lithium from hard-rock sources, SiLeach® should lead to a cheaper, lower-emission product and facilitate the production of ore with lower mine cut-off grades, creating the opportunity to capitalise on what are currently considered waste streams. Thus, SiLeach® may well be part of the solution to the energy/emissions dilemma inherent in the current production of LIBS.

Recycling 'energy metals'

Right now, only 4% of LIBs are recycled. And, while recoveries of nickel, cobalt and copper from those recycled LIBs are acceptable, the current processing technologies are very inefficient when it comes to recovering lithium; indeed, the amount of lithium recovered is close to zero. Via its subsidiary, Resource Conservation and Recycling Corporation Pty Ltd (RCARC), LIT is presently evaluating means by which ALL energy metals can be recovered during LIB recycling.

Micas – the 'forgotten resource'

Currently, inadequate processing technologies lead to more lithium minerals being discarded as waste than ever enter the supply chain. Most of them originate from non-lithium mining operations. The most abundant lithium minerals in this waste category are the micas, which cannot be processed conventionally but are ideally suited to the SiLeach® process. LIT plans to access such lithium micas while limiting its exposure to mining costs, and is negotiating supply from a number of sources.

Resource conservation

Processing opportunities afforded by the application of SiLeach®, combined with better recycling of energy metals, will ease the pressure on existing resources and create a more sustainable future for the production of LIBs.

Where and how lithium is extracted

Lithium production pre-1980s

Pre-1980s, lithium was produced almost exclusively from pegmatites (hard-rock production).

Lithium from brines

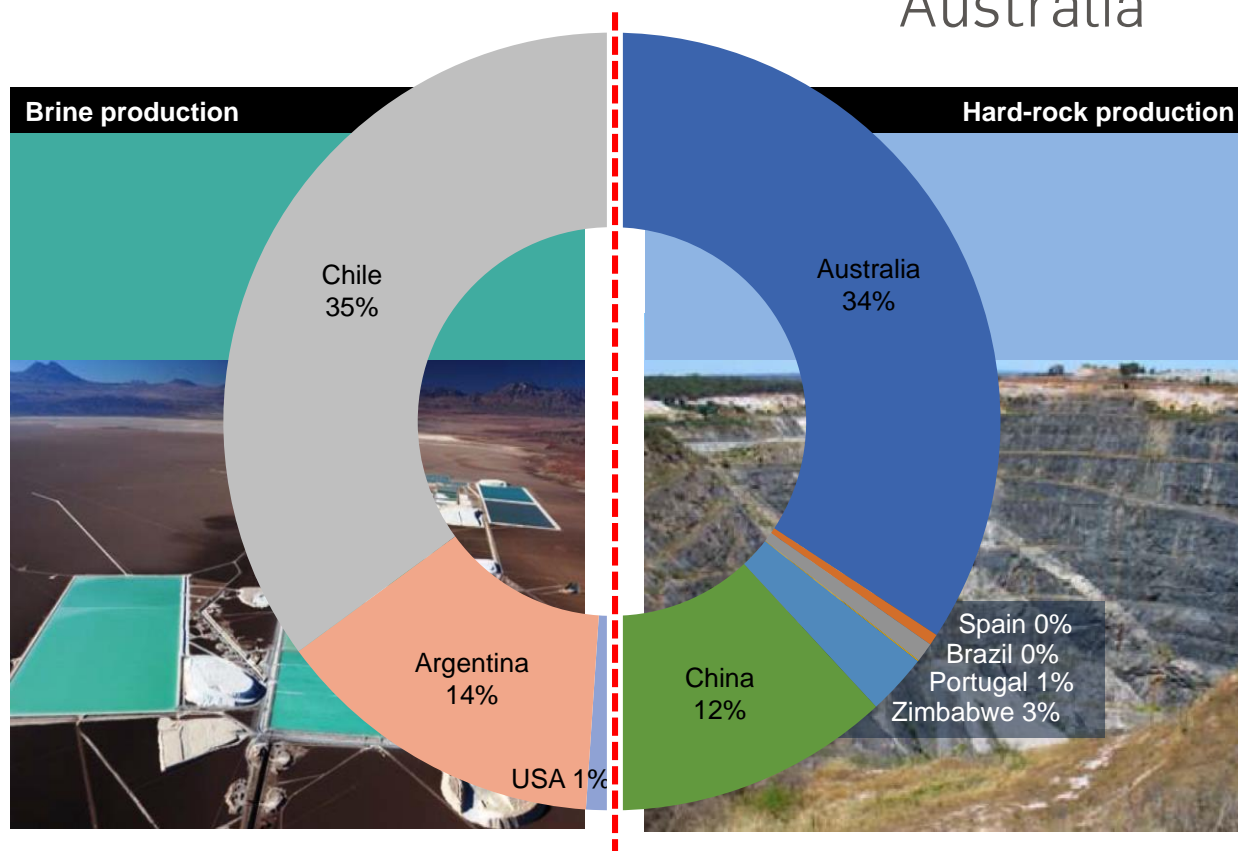
Widespread production of lithium from brines (traditionally a source of fertiliser) began in Chile in the 1980s. The lower costs inherent in this method put most hard-rock lithium producers out of business.

Current production trends

Although hard-rock lithium production involves higher operating costs, capital costs are lower, development times quicker and production cycles a fraction of those of brine producers. Today, new development is dominated by hard-rock production, mostly in Canada and Australia.

Trends in production globally

In 2016, more than 30% of global lithium requirements were met by one pegmatite operation in Western Australia – the Greenbushes mine operated by Talison Lithium Pty Ltd, which announced a twofold expansion in 2017. Now, though, other Australian miners, among them Pilbara Minerals (Pilgangoora), Altura (Pilgangoora), Mineral Resources (Wodgina and Mt Marion) and Galaxy (Mt Cattlin), are gaining momentum. In Canada, meanwhile, Nemaska Lithium Inc. plans new production at Whabouchi and numerous other advanced exploration plays are underway. New developments in brine production are also on the drawing board but, despite the lower operating costs involved, longer development times and higher capital costs render them less attractive in the short term. Strong demand for lithium is driven by the LIB sector, which is experiencing a compound annual growth rate (CAGR) of 18%, and that demand is forecast to continue for the next decade, thanks to the booming markets for EVs, domestic power storage and renewable energy back-up.



Froth flotation then; SiLeach[®] now?



Some consider froth flotation the greatest invention ever to emerge from the Antipodes. It took a brewer, a metallurgist and a mining engineer, among others, to transform the waste dumps of Broken Hill into marketable ore and untold wealth.



Broken Hill Proprietary Company Limited about 1888

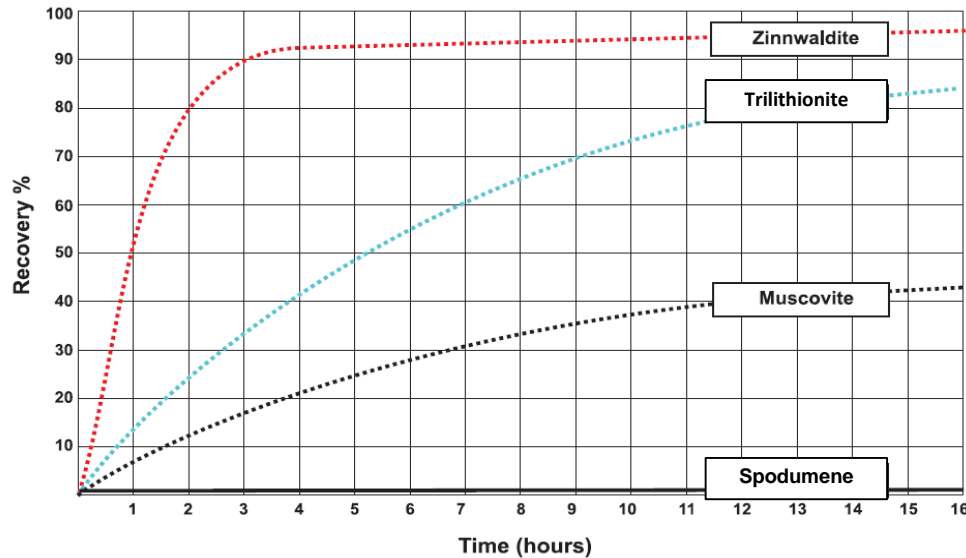
“Broken Hill led the world in the profitable treatment of zinc-lead sulfides. At the turn of the 20th century, three out of every four tons that came out of the mine could not be treated. It was stacked in huge dumps along the line of lode – dumps that would mark the grave of Broken Hill unless silver, zinc and lead could be separated cheaply.”

“In 1902 D.G. Delprat, the general manager of Broken Hill Proprietary Company Limited, invented a process that promised to extract the treasure in the dump. He added oil, salt cake and other chemicals to a tank of pulped ore and pumped air in through a blower at the bottom. He was delighted to observe that the particles of minerals clung to the rising air bubbles and overflowed the tank while the barren particles sank to the bottom. His company had erected the first efficient flotation plant in the world.”

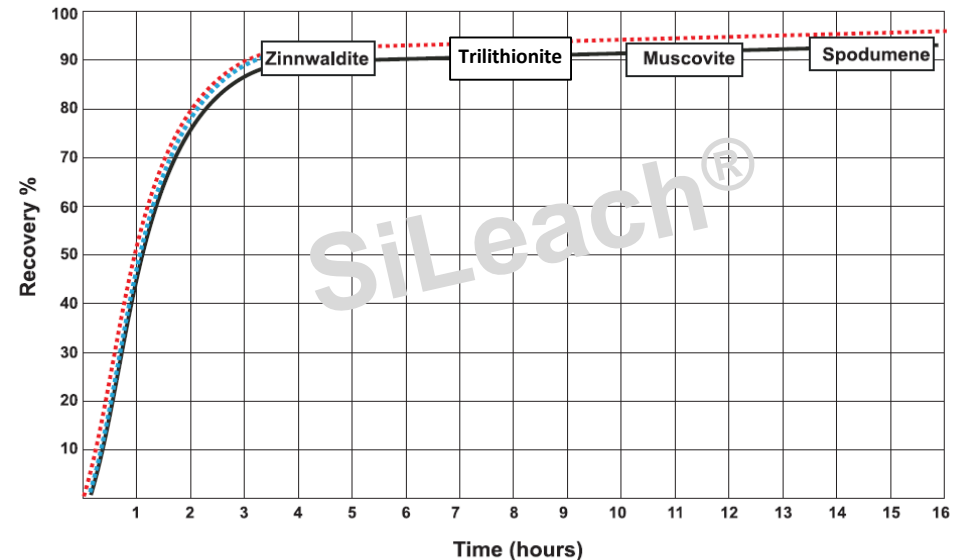
[Extract courtesy of 'Stump Jump Plough to Interscan', A. Walsh, Australian Academy of Science, 1977.]

SiLeach[®] has the potential to transform the lithium industry in the same way that froth flotation did the base-metals industry.

From alpha-spodumene to zinnwaldite: SiLeach[®] is the ultimate processing solution



Sulphuric acid leach – variable leach time, with the most commonly available lithium mineral, spodumene, unreactive. Sulphuric acid does not attack the fundamental building blocks of the silicate lattice: the bonds between silicon and oxygen.



SiLeach[®] reduces most minerals to a common extraction curve by introducing lixiviants that affect the structural elements of all silicates in a common manner. SiLeach[®] attacks the Si=O and Al=O bonds that form the framework of lithium silicates.

SiLeach[®] – the fundamentals

SiLeach[®] is a hydrometallurgical process, so no roasting is required. It uses a combination of sulphuric acid (to break weak chemical bonds) and halides (fluoride in particular) to dissociate the strong bonds that act as the glue in silicate lattices. Reactions occur rapidly at about 90° C, which is a distinct advantage in terms of constraining plant footprint and reducing capital costs. Now that SiLeach[®] has been independently pilot-tested by ANSTO Minerals, further optimisation of the process is under way, with a view to committing to the construction of an LSPP by the end of calendar 2017.

SiLeach[®] achieves a world first

Independent pilot testing of SiLeach[®]

As part of the commercialisation process, ANSTO Minerals operated a continuous pilot plant (pictured right) to process both lithium micas and spodumene. The mica was sourced from the Lepidolite Hill deposit, near Kalgoorlie in Western Australia. That deposit is part of the Goldfields Lithium Alliance, in which LIT has a 40% interest. The spodumene was sourced from Pilbara Minerals' Pilgangoora deposit.

The pilot plant generated the data required to develop the specifications for engineering studies, including the design and costing of a 2500-tpa lithium carbonate plant (the LSPP) using lepidolite (a lithium mica) as a feed source. Perth-based CPC Engineering was commissioned to design the LSPP and has progressed positively through the initial stages.



Commitment to construct a 2500-tpa SiLeach[®] plant (LSPP)

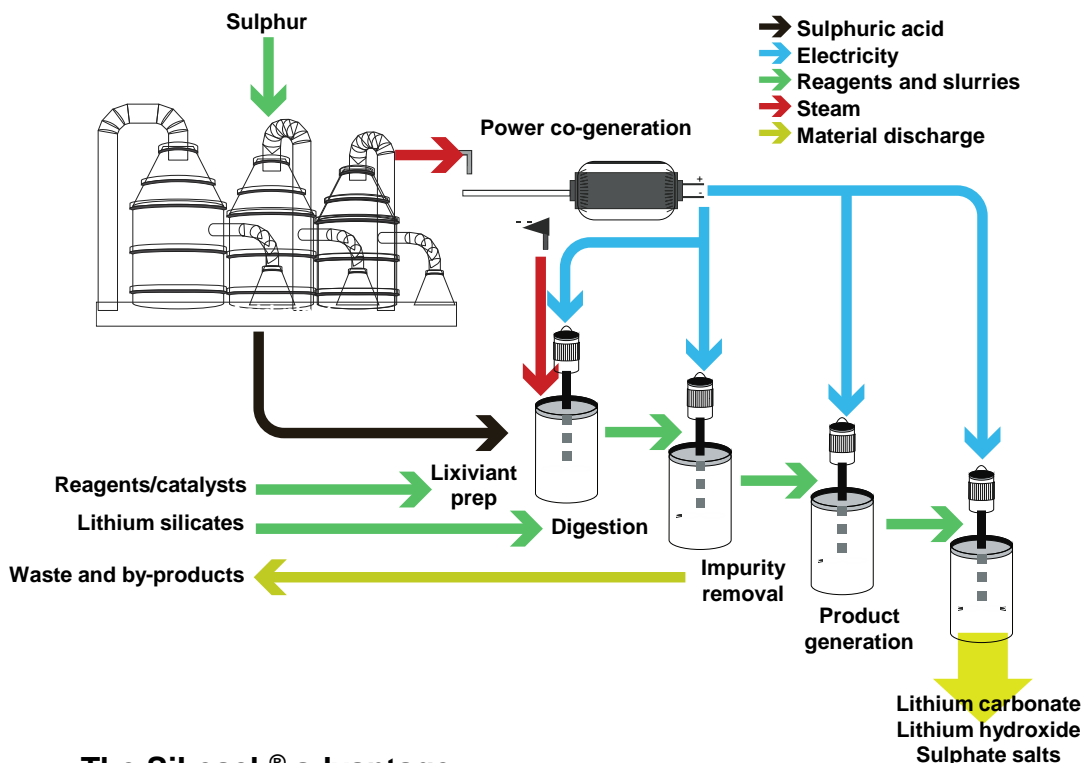
As previously noted, the engineering studies of June 2017 not only demonstrated the economic viability of an up-scaled SiLeach[®] plant but also identified areas in which major improvements in both capital and operating cost could be achieved, albeit with some alterations to the flowsheet.

Further testwork to quantify those changes is underway. The result – SiLeach[®] Mk2 – will demonstrate much improved water management and greater control of impurity deportment prior to the precipitation of lithium chemicals. The means by which these aims are achieved will be a first for the processing of lithium minerals from hard-rock provenance.

LIT is conducting test work on a continuous improvement basis, in order to optimise process outcomes and ensure the Company continues to lead the way in the sustainable processing of lithium minerals.

Superior processing technology

SiLeach® is designed to rapidly digest ANY silicate mineral



During conventional processing, lithium is recovered only from spodumene concentrates, not lithium micas. Also, conventional processing incorporates a roasting phase at temperatures of more than 1000° C, followed by 'sulphation bake', a sulphuric acid process under-taken at about 250° C. The residue is subsequently cooled and leached with water to recover ONLY lithium (as a sulphate), which is then further processed to produce lithium carbonate.

As a hydrometallurgical process occurring entirely in solution (no roasting), SiLeach® reduces energy consumption. Moreover, it's undertaken at atmospheric pressure, so only simple mechanical components are necessary. All metals within the target minerals are soluble in the SiLeach® process, which creates the opportunity to:

- generate **significant by-product credits**, and
- produce very **clean lithium solutions**.

The latter point is important in terms of the subsequent production of battery-grade lithium carbonate.

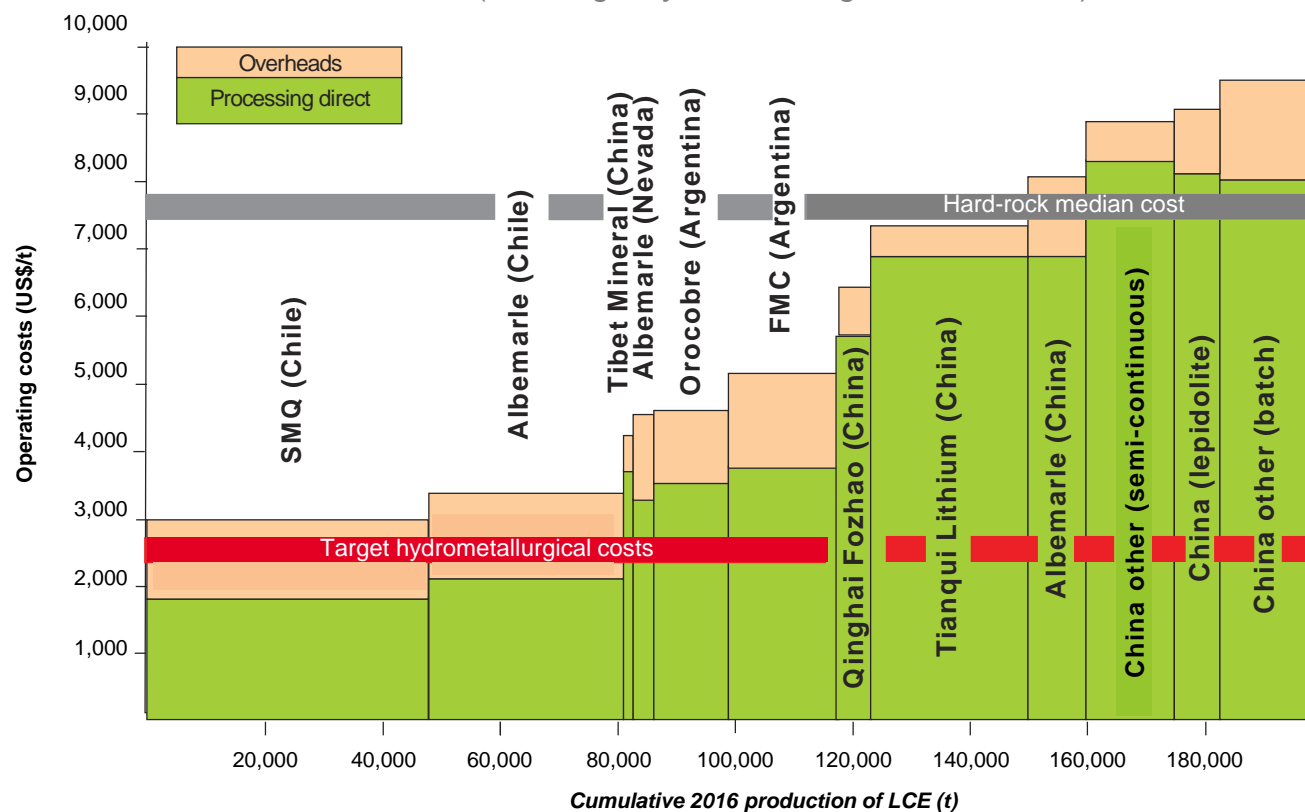
The SiLeach® advantage

In summary, SiLeach® is an unparalleled processing environment that efficiently digests and recovers all significant metal values from the minerals processed. Thus, it can be applied to a wide range of lithium feedstock with low energy consumption, high metal recoveries and extensive by-product credits. In addition, SiLeach™ has applications beyond the recovery of lithium from silicates. It has, for example, been tested on refractory gold ores to remove siliceous gangue material from the ore prior to cyanide recovery of gold. Therefore, SiLeach® demonstrates **versatility beyond lithium recovery** and may become the benchmark for extraction of a wide range of metals from silicates.

Aspirational statement

Efficacy of the SiLeach® process

SiLeach® does not incorporate a roasting phase to extract lithium and can potentially derive all its energy requirements from waste heat generated in the production of sulphuric acid. Therefore, operating inputs could be quite low. This is in vast contrast to attempts to recover lithium from micas using conventional processing (see *China (lepidolite)* on the right in the graph below). Operating costs for production scale, accounting for by-product credits, should place SiLeach®-based lithium carbonate production near the bottom end of the cost curve (see *Target hydrometallurgical costs* below).



Global lithium carbonate operating costs (after Roskill, 2017) and target hydrometallurgical costs.

Strategic positions in lithium hot spots



Resource security is a commercial imperative

One of LIT's prime objectives is processing **third-party ore**, where much of the mining cost has already been absorbed during the extraction of other commodities.

That said, LIT recognises such operations may not always provide the **resource security** required to develop SiLeach[®] processing hubs. To ensure such security, LIT has taken positions in major lithium provinces around the globe.

To date, LIT has drill-tested the Agua Fria deposit in Mexico, and Ravensthorpe in Western Australia and is planning its drilling programme for Sadisdorf in Germany.

Further, LIT is negotiating farm-out positions on a number of its exploration properties in return for **first right of refusal on product** generated from those areas, thereby retaining access to the supply chain without spending high-risk exploration dollars to realise reserves.

In summary, SiLeach[®] optimisation remains LIT's highest priority, with a view to commercialising the process and advancing towards production.

Meanwhile, metallurgical assessment of the Agua Fria deposit is underway, to identify a beneficiation path that elevates feed grades and improves the value of the project.

Further, exploration at Ravensthorpe and Sadisdorf has commenced and preliminary indications of the resource potential of Lake Johnston are very promising; the latter area will undergo more intensive exploration later in the year.

Finally, LIT maintains a watching brief globally, to identify projects that fit its exploration and development profile.

Sustainability equals viability



The quest for a circular economy

As discussed, the metals used in the production of LIBs face some interesting lifecycle threats. Cobalt, a major component of high-end LIBs, is largely a by-product of nickel and copper mining, with primary cobalt production not only a very small proportion of supply but also a source of grave ethical concerns. Meanwhile, battery demand is increasing at such a rate that demand for cobalt in LIB manufacture now accounts for about half the market, up from next to nothing a few years ago. Alarming, metals from recycled LIBs supply only around 4% of new production (and almost no lithium is recovered).

It's increasingly evident, then, that sustainable demand, cradle-to-grave product stewardship and a responsible attitude towards the recycling of energy metals are imperative. The development of more efficient metallurgical processes to recover lithium is also long overdue. With these considerations in mind, LIT has established the **Resource Conservation and Recycling Corporation P/L** (RCARC) to evaluate technologies that can be deployed to achieve the goal of a circular economy in energy metals.

RCARC to match technology to supply

The creation of a circular economy goes far further than supplying a technical solution to reprocessing raw materials. The sources of those materials need to be identified and collection logistics for used LIBs established. While much of what's necessary is already in place, integration of every step in the recycling chain is essential in most locations (China perhaps being an exception).

RCARC is in discussions (covering all aspects of the logistics chain) with entities in North America and Australia that can deliver waste batteries for reprocessing back into metals or compounds useable in the manufacture of new LIBs. RCARC is also negotiating with process technology suppliers, with the aim of developing an efficient processing package that recovers most of the value of the metals used in the original production of spent batteries now ready to be recycled.

The time to recycle is NOW!

Efficient recycling depends on the initiation of appropriate handling protocols, since LIBs are widely considered 'dangerous goods' when handled in bulk. While the collection and transport of LIBs certainly presents challenges, RCARC believes that by working closely with regulators, solutions will be found; however, it's essential that ALL stakeholders be committed to resolving outstanding issues. By year's end, RCARC aims to develop plans for an integrated recycling system that generates new metals from old LIBs. Establishing critical logistic links is essential for this plan to succeed.

Graphite



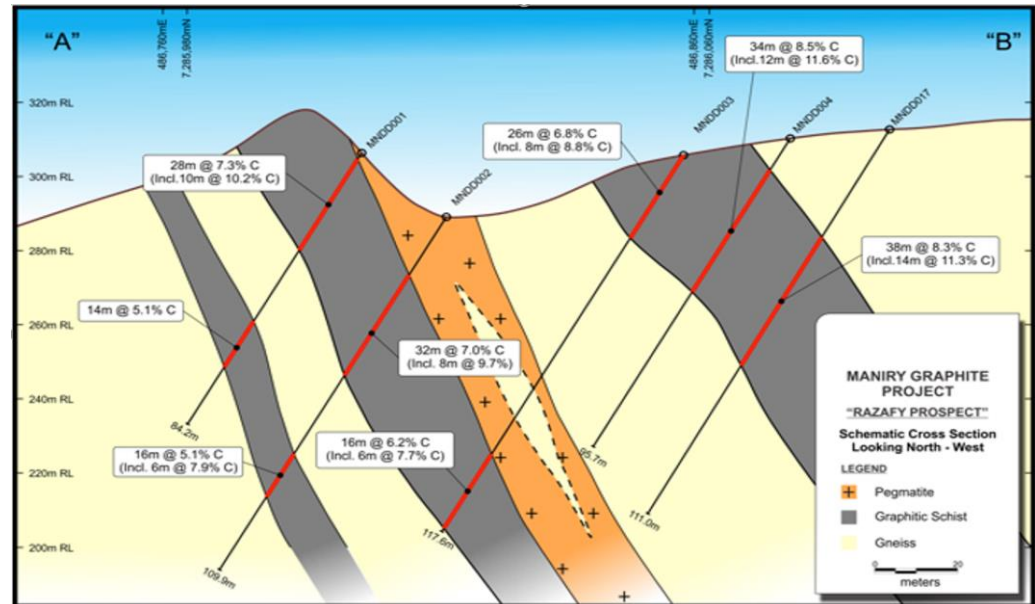
LIT subsidiary BlackEarth Minerals prepares for IPO

Graphite explorer BlackEarth Minerals NL (BEM) holds a significant exploration portfolio in Western Australia, as well as graphite projects in Madagascar.

BEM will list on the ASX later this year, with LIT as a major shareholder (a **priority entitlement** will be offered to LIT shareholders).

LIT has assembled an experienced management team for BEM and LIT chairman George Bauk will represent LIT on the BEM board of directors.

While LIT considers graphite synergistic with its other assets, its decision to have BEM operate as a separate entity was made in the interests of **maximising the effectiveness** of the LIT management team.



Lithium Australia – a sound investment



- ✓ SiLeach® disruptive lithium processing technology 100% company-owned.
- ✓ Technology well-advanced towards commercialisation.
- ✓ Positioned at the low end of the cost curve – accessing value higher up the chain.
- ✓ Committed to a sustainable lithium future.
- ✓ Strategic partnerships and alliances in major lithium provinces globally.
- ✓ Experienced and resolute management team.

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capital expenditures, ore reserves and mineral resources and anticipated grades and recovery rates and are, or may be, based on assumptions and estimates related to future technical, economic, market, political, social and other conditions.

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Photographs in this presentation do not depict assets of the Company.

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.

The reporting of mineral species is generic in nature, and the term 'lepidolite' – as it is applied to mineral species, and not necessarily locality names – includes mineral species widely considered to be part of the solid solution series of polyolithionite/trilithionite, of which the Competent Person considers lepidolite to be approximately a median member. It is also acknowledged that material processed from Lepidolite Hill has bulk compositions tending towards trilithionite, although the rubidium concentration is outside the range generally expected in such minerals.

Similarly, the term 'zinnwaldite' has been applied to minerals approximating the accepted composition of zinnwaldite but with variations tending towards lepidolite. This terminology is considered acceptable by the Competent Person.

Notes

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Lithium
Australia^{NL}