

### COMPANY DETAILS

#### **LITHIUM AUSTRALIA NL**

**ABN:** 29 126 129 413

**ASX CODE:** LIT & LITCE

#### **PRINCIPAL AND REGISTERED OFFICE**

Level 1  
675 Murray Street  
West Perth WA 6005

**P** +61 8 6145 0288

**F** +61 8 9475 0847

#### **POSTAL ADDRESS**

PO Box 1088  
West Perth WA 6872

#### **CORPORATE INFORMATION**

(29 October 2017)  
314M Ordinary Shares  
133M Listed Partly Paid Shares  
21M Unlisted Options  
25M Performance Rights

#### **BOARD OF DIRECTORS**

**George Bauk**  
(Non-Executive Chairman)  
**Adrian Griffin**  
(Managing Director)  
**Bryan Dixon**  
(Non-Executive Director)

#### **For further information contact:**

Lithium Australia NL  
Adrian Griffin (MD)

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### **LITHIUM AUSTRALIA REPORT FOR THE QUARTER ENDING 30 SEPTEMBER 2017 – LARGE SCALE PILOT PLANT DEVELOPMENT FUNDING CONSIDERATION**

#### **SEPTEMBER 2017 QUARTER HIGHLIGHTS**

- Lithium Australia NL Sileach® Large Scale Pilot Plant exceeds design criteria
- LIT's North Queensland footprint tenure enlarged
- LIT's Sadisdorf Project (Germany) farmin and JV with Tin International continues exploration
- LIT commences due diligence on the Very Small Particle Company Limited (VSPC)

#### **SUBSEQUENT EVENTS**

LIT completes stage 1 of its due diligence on VSPC with a positive outcome which allows transaction to continue

LIT takes majority share in the Electra Joint Venture

LIT raises \$1.4m by way of placement

LIT sells down its substantial shareholding of Lepidico to take advantage of significant profit on transaction

Cash and cash reserves of \$10.3m at 29 October 2017

#### **MEDIA CONTACT:**

**Adrian Griffin** Lithium Australia NL 08 6145 0288 | 0418 927 658  
**Kevin Skinner** Field Public Relations 08 8234 9555 | 0414 822 631

## **Lithium powering the energy revolution**

Lithium is an important commodity especially in the manufacturing of batteries and according to most analysts the demand for lithium will increase significantly with the growing market for electric vehicles in the coming years. Back-up for renewable power generation, creating reliable 24-hour supply, and domestic power storage, will also generate strong demand for lithium.

LIT is developing the technology to improve sustainability of lithium production by processing lithium bearing materials neglected by others as a feed source for lithium chemicals. LIT's most advanced extraction technology is SiLeach®. SiLeach® eliminates the expensive roasting step in conventional lithium processing, with the technology capable of treating lithium bearing minerals currently being disposed of as waste from mining operations around the world, due to a lack of suitable mineral extraction technology.

### **SiLeach® Large-Scale Pilot Plant Studies to optimize capital and operating costs**

Engineering design studies and subsequent financial modelling showed that LIT's proposed large-scale pilot plant ("LSPP") based on SiLeach® can be cash positive based on the production of lithium carbonate, before by-product credits, and that mica material can be a competitive source of commercial lithium products. The studies also identified multiple avenues for further substantial capital and operating cost reductions. These were the key findings of the initial work released during the quarter by LIT and CPC Project Design Pty Ltd ("CPC") in their design and evaluation of a LSPP based on the application of LIT's advanced SiLeach® lithium processing technology. The LSPP's design studies used a base annual lithium carbonate production of 2,500 tonnes (~1/10th scale of a full-scale production plant).

The studies concluded that:

- recovery of high purity lithium carbonate produced by the ANSTO operated pilot plant that meets offtake specification, can be achieved;
- hydrometallurgical plant operating costs of around US\$5,600 – US\$6,400 per tonne of lithium carbonate produced, without consideration of any potential by-product credits;
- by-product credits have potential to significantly reduce operating costs; and
- potential to make further significant improvements to both capital and operating costs by:
  - improved water management;
  - optimisation of reagent mix and usage;
  - improved control on neutralisation to minimise lithium losses;
  - optimising the trade-off of residence time versus recovery; and
  - economies of scale transitioning from pilot plant testing to commercial operations.

LIT's current preferred supply model is to source lithium mica from waste streams from already operating mines on historical dumps and tailings. LIT is also pursuing exploration activity to secure alternative supply, if required and is evaluating the processing of spodumene, and suitable spodumene supplies. The sourcing of the feed material is one of LIT's high priorities and this remains a critical requirement for committing to the construction of the LSPP.

Optimisation studies will be undertaken during 2017, to improve both capital and operating costs, with a view to committing to construction of a LSPP in early 2018.

## EXPLORATION ACTIVITIES IN SEPTEMBER 2017 QUARTER

### AGUA FRIA, MEXICO (a joint venture with Alix Resources Corp, AIX-TSX:V)

LIT and AIX completed a drilling program on its Agua Fria property, Electra Project located in Sonora, Mexico. Drilling has concentrated along a 6 km length of various stacked beds of lithium prospective sediments that comprise the Agua Fria property. The highlight of the exploration program was the discovery of the “West Flank” lithium zone, which partially outcrops and trends NNW-SSE for over 2,500 metres, on the western portion of the Agua Fria concession (refer Figure 1). In total 16 reverse circulation drill (RC) holes were completed totalling 1,762 metres across multiple target areas. The results of this drilling campaign are listed in the ASX release dated 1 September 2017.

**The “West Flank” lithium target is the most significant commercial target as it outcrops and has the potential to deliver a mineral resource with very low stripping ratios.** The West Flank is defined by:

- Surface grid sampling completed in May (rock chip sampling) with 31 samples returning +/- 1,000 ppm (148 samples in total).
- Three trenches with systematic and continuous sampling returning 949 ppm Li over 31 metres, 954 ppm Li over 25 metres and 928 ppm lithium over 43 metres.
- RC drill holes on the West Flank Target including: AF-17-01, 1,058 ppm Li over 33 metres from 3 metres, AF-17-02 1,031 ppm Li over 48 metres from 63 metres, AF-17-03, 917 ppm Li over 30 metres from 27 metres; and AF-17-14, 1,050 ppm Li over 24 metres from the collar (full results are tabulated in Appendix 1 which shows:
  1. trench samples (lab assay),
  2. channel samples (lab assay),
  3. rock chip samples (Z-300 LIBS assay) and
  4. drill results (lab assay)).
- RC drill holes on the edge (east side) of the West Flank target include AF-17-11, 791 ppm Li over 24 metres from the collar, and AF-17-12, 816 ppm Li over 45 metres from the collar.

The West Flank lithium zone is 25 to 50 metres in thickness and is dipping shallowly to the east, providing potential to realise a mineral resource of significant tonnage.

Future efforts on the West Flank target will focus on identifying the stratigraphy and controls of higher grade lithium values close to surface, with zero to minimal strip ratio by open pit mining. Metallurgical testing continues, and having established that:

- acid leaching at 50°C achieves 99% extraction of Li in only four hours,
- no roasting is required and
- no expensive reagents are required.

A large sample has been delivered to Curtin University for further metallurgical studies.

In addition to significant Lithium values, the clay horizons at Agua Fria are anomalous in potassium which may be recoverable as potassium sulphate, a major component of “NPK” fertilizers. This potentially adds a valuable by-product credit to the projects economics.

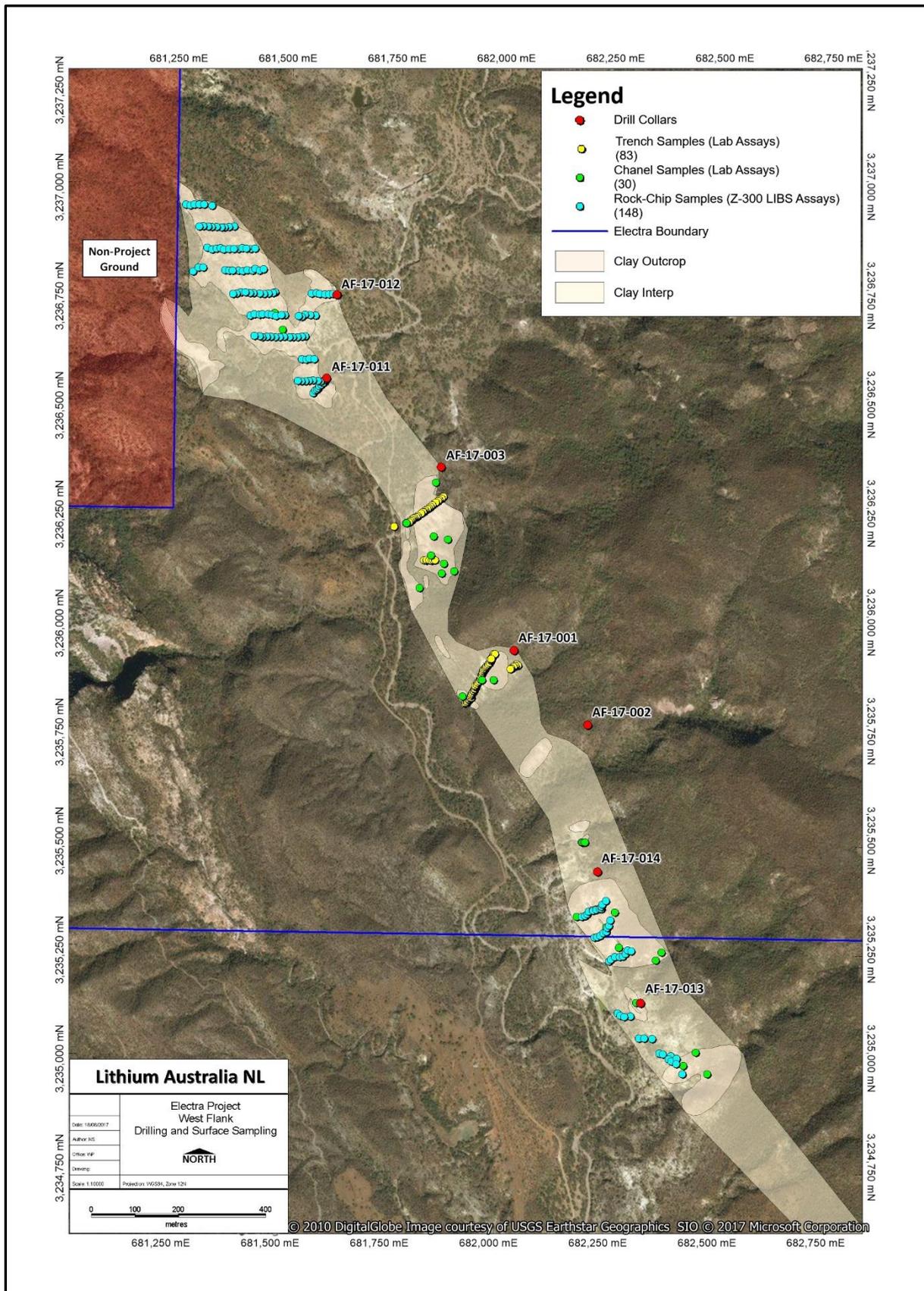


Figure 1: Electra Project – West Flank – drilling and surface sampling location map

## **SADISDORF, GERMANY (a farmin/joint venture with Tin International AG)**

Sadisdorf is a historic tin mine located in Saxony, Germany, close to the border with the Czech Republic. The style of mineralisation is a greisen (an altered granite). Tin mineralisation is enveloped by pervasive lithium-mica alteration.

The orebody was drilled by the Soviets, during the occupation of East Germany. An Inferred Mineral Resource for tin of 3,360,000 tonnes at 0.44% Sn was established by Tin International AG, a subsidiary of Deutsche Rohstoff AG. A substantial amount of lithium data generated in the Soviet era has been compiled and LIT has contracted an international mining consultant, CSA Global, to audit the database for the purpose of mineral resource evaluation. A drilling program is currently being planned for implementation later this year.

**Sampling of historic drill core (shown in Figure 2) has commenced** and planning for systematic channel sampling of underground workings is in progress. This work will reinforce the quality control required for future mineral resource estimation and provide a valuable library of mineralogical data. Mineralogical studies will be conducted in Perth, Western Australia and will augment the metallurgical assessment required for feasibility evaluation studies. Sadisdorf mineralisation has been previously treated with LIT's SiLeach® process generating outstanding results.



**Figure 2: Historic Sadisdorf drill core and sample pulps**

## **PILGANGOORA, WESTERN AUSTRALIA (strategic alliance with Venus Metals Corporation)**

A field crew was despatched to undertake ground reconnaissance, mapping and sampling on tenure held by Venus Metals Corporation (ASX: VMC) in the Pilbara region of Western Australia at VMC's Pilgangoora project.

## **RAVENSTHORPE, WESTERN AUSTRALIA (Lithium Australia 100%)**

Drilling of the Horseshoe Pegmatite, located within LIT's Ravensthorpe project, 420 km east of Perth (refer Figure 3) failed to define any economic lithium mineralisation. The costeaning completed on the Horseshoe Pegmatite ([LIT ASX release 26 May 2017](#)) showed that the lepidolite and spodumene mineralisation was irregular, forming discrete veins and pods. Further costeans are planned prior to any further drilling at Horseshoe to better quantify the nature of the mineralisation.

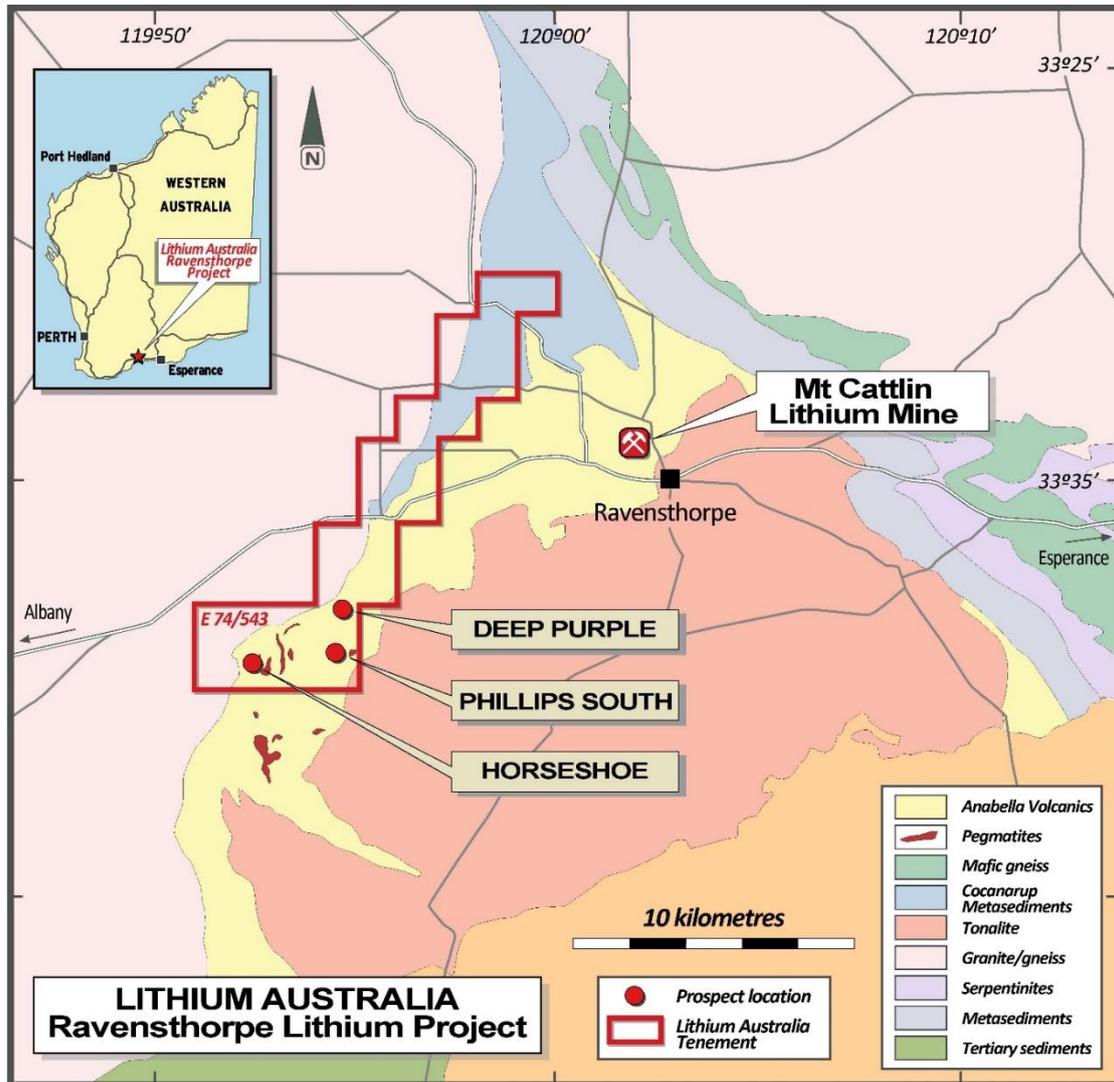


Figure 3: Ravensthorpe Lithium Project location map

Wet weather adversely affected drill rig access and prematurely terminated the drilling campaign, which will be resumed when ground conditions improve later in the year. The initial focus of further drilling will be on other pegmatites in the suite, commencing with Deep Purple, a lepidolite pegmatite located east of the Horseshoe Pegmatite.

#### **GASCOYNE, WESTERN AUSTRALIA (Lithium Australia 100%)**

Geological reconnaissance and sampling has begun in the Gascoyne Project (refer Figure 4). The Gascoyne Project is situated 800 km north-northeast from Perth and lies along strike and adjacent to the Nardoo Pegmatite District and is spatially associated with peraluminous S-type granites of the Thirty Three and Durlacher Supersuites. These granites are interpreted to be the source of the pegmatites and known lithium, rubidium, niobium, tantalum, tungsten and tin occurrences of the region.

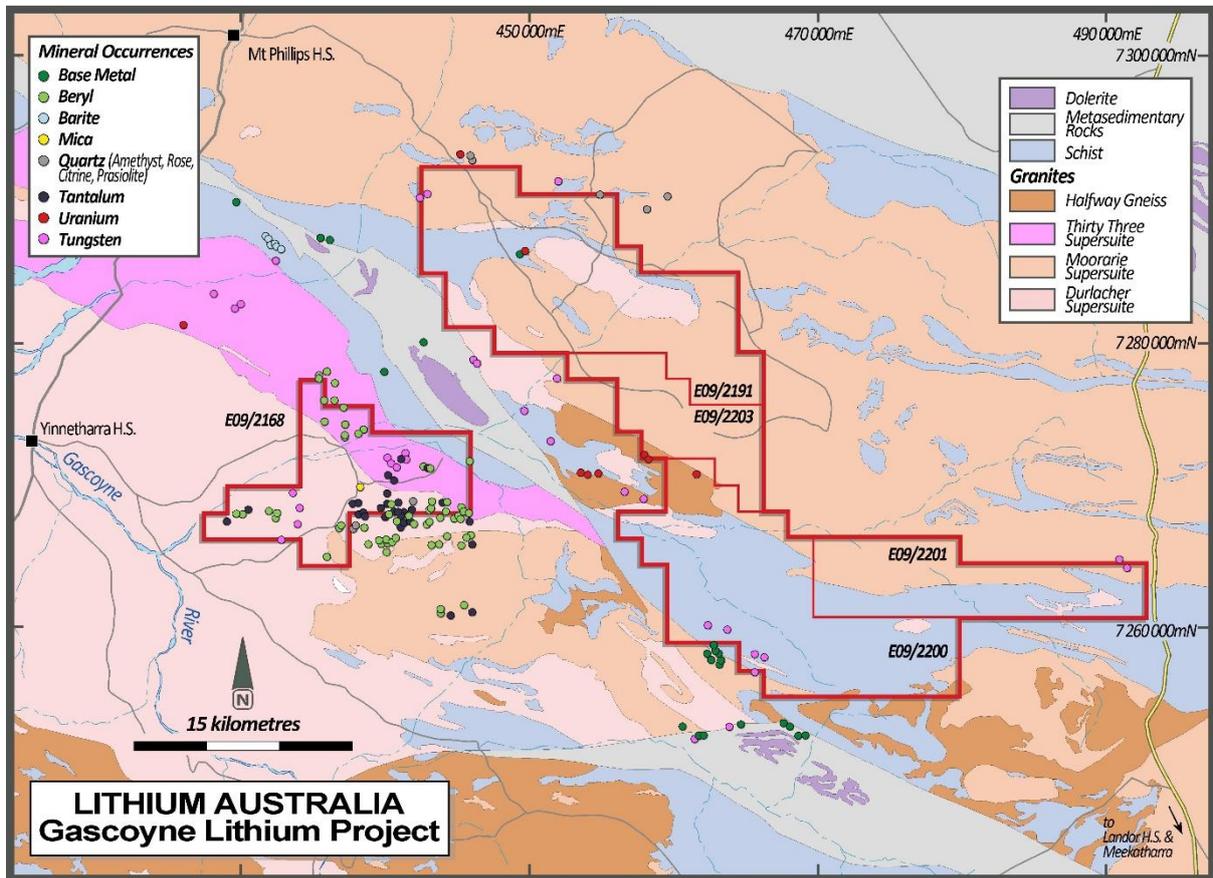


Figure 4: Gascoyne Lithium Project location map

#### CORPORATE

On 22 June 2017, LIT advised that it would offer Withdrawal Rights for LPD shares to 38 shareholders. Only 1 shareholder accepted the Withdrawal Rights Offer and this has been completed during the quarter.

LIT is reviewing its funding options as it optimises its Large Scale Pilot Plant plans. At the date of this report, LIT has cash and cash reserves of over \$10m.

#### Adrian Griffin

Managing Director

Mobile +61 (0) 418 927 658

[Adrian.Griffin@lithium-au.com](mailto:Adrian.Griffin@lithium-au.com)

#### About Lithium Australia NL:

LIT is a dedicated developer of disruptive lithium extraction technologies. LIT has strategic alliances with and investments in a number of companies, potentially providing access to a diversified lithium mineral inventory. LIT aspires to create the union between resources and the best available technology and to establish a global lithium processing business.

#### MEDIA CONTACT:

**Adrian Griffin Lithium Australia NL 08 6145 0288 | 0418 927 658**

**Kevin Skinner Field Public Relations 08 8234 9555 | 0414 822 631**

#### **Competent Persons Statement:**

*The information contained in the report that relates to Exploration Results together with any related assessments and interpretations is based on information compiled or reviewed by Mr. Adrian Griffin, who is an employee of the Company and is a Member of the Australasian Institute of Mining and Metallurgy and has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which is being undertaken to qualify 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 has given consent to the inclusion in the report of the matters based on this information in the form and context in which it appears.*

LISTING RULE 5.3.3 INFORMATION

**AUSTRALIAN TENEMENTS**

LIT TENEMENTS	PROJECT	NOTES	DATE
E09/2168	YINNIETHARRA	GRANTED	22/02/2017
E09/2191	THOMAS RIVER	GRANTED	29/11/2016
E09/2200	MOUNT JAMES 2	GRANTED	08/03/2017
E09/2201	MOUNT JAMES 1	GRANTED	08/03/2017
E09/2203	MOUNT JAMES 3	GRANTED	17/03/2017
M15/1809	COOLGARDIE	GRANTED	04/02/2013
P15/5519	COOLGARDIE	GRANTED	3/02/2011
P15/5574	COOLGARDIE	GRANTED	10/08/2011
P15/5575	COOLGARDIE	GRANTED	10/08/2011
P15/5625	COOLGARDIE	GRANTED	9/08/2013
P15/5626	COOLGARDIE	GRANTED	14/12/2011
P15/5629	COOLGARDIE	GRANTED	9/08/2013
P15/5739	COOLGARDIE	GRANTED	17/01/2013
P15/5740	COOLGARDIE	GRANTED	17/01/2013
P15/5741	COOLGARDIE	GRANTED	17/01/2013
P15/5742	COOLGARDIE	GRANTED	17/01/2013
P15/5743	COOLGARDIE	GRANTED	17/01/2013
P15/5749	COOLGARDIE	GRANTED	3/04/2013
E45/4627	KANGAN	GRANTED	11/10/2016
E45/4630	MUNGALEENA	GRANTED	06/02/2017
E45/4654	HILLSIDE 1	GRANTED	04/07/2017
E45/4655	HILLSIDE 2	GRANTED	04/07/2017
E45/4668	HILLSIDE 3	GRANTED	03/07/2017
E45/4684	STRELLEY	GRANTED	02/02/2017
P45/3004	KAGAN	GRANTED	04/11/2016
E63/1777	MT DAY	GRANTED	22/03/2016
E63/1805	MT DAY	GRANTED	28/02/2017
E63/1806	MT DAY	GRANTED	28/02/2017
E70/4778	GREENBUSHES	GRANTED	19/04/2016

<b>E70/4788</b>	<b>GREENBUSHES</b>	<b>GRANTED</b>	<b>01/07/2016</b>
<b>E70/4789</b>	<b>GREENBUSHES</b>	<b>GRANTED</b>	<b>01/07/2016</b>
<b>E70/4790</b>	<b>GREENBUSHES</b>	<b>GRANTED</b>	<b>01/07/2016</b>
<b>E70/4888</b>	<b>GREENBUSHES</b>	<b>GRANTED</b>	<b>03/04/2017</b>
<b>E70/4890</b>	<b>GREENBUSHES</b>	<b>GRANTED</b>	<b>13/04/2017</b>
<b>E74/0543</b>	<b>RAVENSTHORPE</b>	<b>GRANTED</b>	<b>24/01/2014</b>
<b>E77/2279</b>	<b>LAKE SEABROOK</b>	<b>GRANTED</b>	<b>27/07/2015</b>
<b>EL 30897</b>	<b>ANGERS</b>	<b>GRANTED</b>	<b>22/03/2016</b>
<b>EPM 26252</b>	<b>CAPE YORK PROJECT 1</b>	<b>GRANTED</b>	<b>19/01/2017</b>
<b>EPM 26255</b>	<b>CAPE YORK PROJECT 2</b>	<b>GRANTED</b>	<b>13/02/2017</b>
<b>EPM 26339</b>	<b>CAPE YORK AMBER 1</b>	<b>GRANTED</b>	<b>13/04/2017</b>
<b>EPM 26394</b>	<b>CAPE YORK AMBER 2</b>	<b>GRANTED</b>	<b>13/04/2017</b>
<b>EPM 26395</b>	<b>CAPE YORK AMBER 3</b>	<b>GRANTED</b>	<b>13/04/2017</b>
<b>EPM 26396</b>	<b>CAPE YORK AMER 4</b>	<b>GRANTED</b>	<b>20/06/2017</b>
<b>EL 5960</b>	<b>VIVONEE SA</b>	<b>GRANTED</b>	<b>09/05/2017</b>

## Appendix 5B

# Mining exploration entity and oil and gas exploration entity quarterly report

Introduced 01/07/96 Origin Appendix 8 Amended 01/07/97, 01/07/98, 30/09/01, 01/06/10, 17/12/10, 01/05/13, 01/09/16

### Name of entity

Lithium Australia NL	
<b>ABN</b>	<b>Quarter ended ("current quarter")</b>
29 126 129 413	30 SEPTEMBER 2017

Consolidated statement of cash flows	Current quarter \$A'000	Year to date (3months) \$A'000
<b>1. Cash flows from operating activities</b>		
1.1 Receipts from customers	-	-
1.2 Payments for		
(a) exploration & evaluation	(391)	(391)
(b) development	-	-
(c) production	-	-
(d) staff costs	(170)	(170)
(e) administration and corporate costs	(468)	(468)
1.3 Dividends received (see note 3)	-	-
1.4 Interest received	3	3
1.5 Interest and other costs of finance paid	-	-
1.6 Income taxes paid	-	-
1.7 Research and development refunds	601	601
1.8 Other (provide details if material)	-	-
<b>1.9 Net cash from / (used in) operating activities</b>	<b>(425)</b>	<b>(425)</b>
<b>2. Cash flows from investing activities</b>		
2.1 Payments to acquire:		
(a) property, plant and equipment	(6)	(6)
(b) tenements (see item 10)	-	-
(c) investments	(81)	(81)
(d) other non-current assets	(302)	(302)

Consolidated statement of cash flows	Current quarter \$A'000	Year to date (3months) \$A'000
2.2 Proceeds from the disposal of:		
(a) property, plant and equipment	-	-
(b) tenements (see item 10)	-	-
(c) investments	42	42
(d) other non-current assets	325	325
2.3 Cash flows from loans to other entities	-	-
2.4 Dividends received (see note 3)	-	-
2.5 Other (provide details if material)	-	-
<b>2.6 Net cash from / (used in) investing activities</b>	<b>(22)</b>	<b>(22)</b>
<b>3. Cash flows from financing activities</b>		
3.1 Proceeds from issues of shares	-	-
3.2 Proceeds from issue of convertible notes	-	-
3.3 Proceeds from exercise of share options	-	-
3.4 Transaction costs related to issues of shares, convertible notes or options	-	-
3.5 Proceeds from borrowings	1,200	1200
3.6 Repayment of borrowings	-	-
3.7 Transaction costs related to loans and borrowings	-	-
3.8 Dividends paid	-	-
3.9 Other	-	-
<b>3.10 Net cash from / (used in) financing activities</b>	<b>1,200</b>	<b>1200</b>
<b>4. Net increase / (decrease) in cash and cash equivalents for the period</b>		
4.1 Cash and cash equivalents at beginning of period	2,589	2,589
4.2 Net cash from / (used in) operating activities (item 1.9 above)	(425)	(425)
4.3 Net cash from / (used in) investing activities (item 2.6 above)	(22)	(22)

Consolidated statement of cash flows		Current quarter \$A'000	Year to date (3months) \$A'000
4.4	Net cash from / (used in) financing activities (item 3.10 above)	1,200	1,200
4.5	Effect of movement in exchange rates on cash held	-	-
<b>4.6</b>	<b>Cash and cash equivalents at end of period</b>	<b>3,342</b>	<b>3,342</b>

5.	Reconciliation of cash and cash equivalents at the end of the quarter (as shown in the consolidated statement of cash flows) to the related items in the accounts	Current quarter \$A'000	Previous quarter \$A'000
5.1	Bank balances	386	134
5.2	Call deposits	2,956	2,455
5.3	Bank overdrafts	-	-
5.4	Other (provide details)	-	-
<b>5.5</b>	<b>Cash and cash equivalents at end of quarter (should equal item 4.6 above)</b>	<b>3,342</b>	<b>2,589</b>

6.	Payments to directors of the entity and their associates	Current quarter \$A'000
6.1	Aggregate amount of payments to these parties included in item 1.2	103
6.2	Aggregate amount of cash flow from loans to these parties included in item 2.3	-
6.3	Include below any explanation necessary to understand the transactions included in items 6.1 and 6.2	

Payments to directors and employees for services to the economic entity.

7. Payments to related entities of the entity and their associates	Current quarter \$A'000
7.1 Aggregate amount of payments to these parties included in item 1.2	-
7.2 Aggregate amount of cash flow from loans to these parties included in item 2.3	-
7.3 Include below any explanation necessary to understand the transactions included in items 7.1 and 7.2	

8. Financing facilities available <i>Add notes as necessary for an understanding of the position</i>	Total facility amount at quarter end \$A'000	Amount drawn at quarter end \$A'000
8.1 Loan facilities	-	-
8.2 Credit standby arrangements	-	-
8.3 Other (LITCE's) & CPA facility	33,199	-
8.4 Include below a description of each facility above, including the lender, interest rate and whether it is secured or unsecured. If any additional facilities have been entered into or are proposed to be entered into after quarter end, include details of those facilities as well.		

LITCE's - Current outstanding amounts on LITCE – 25 cent contributing shares

9. Estimated cash outflows for next quarter	\$A'000
9.1 Exploration and evaluation	1,490
9.2 Development	480
9.3 Production	0
9.4 Staff costs	499
9.5 Administration and corporate costs	430
9.6 Other (provide details if material)	0
<b>9.7 Total estimated cash outflows</b>	<b>2,899</b>

