



# ALTURA LITHIUM SUCCESSFULLY PRODUCING HIGH-QUALITY LITHIUM CONCENTRATE

November 2018

RESOURCES DRIVING SUPPLY TO THE BATTERY REVOLUTION

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# PROJECT DELIVERY SEQUENCE



Timeline places Altura Lithium in a competitive position to leverage on the rapidly growing global lithium market



March 2017

Pilgangoora project management plan approved by WA Government and on-site works commence



May 2018

First crushing of ore at the Altura Lithium Project



July 2018

First production of lithium concentrate



August 2018

First haulage from the mine site to the Qube storage facility in Port Hedland



October 2018

First shipment of lithium concentrate to Altura's offtake partner Lionergy



# COMPANY OVERVIEW

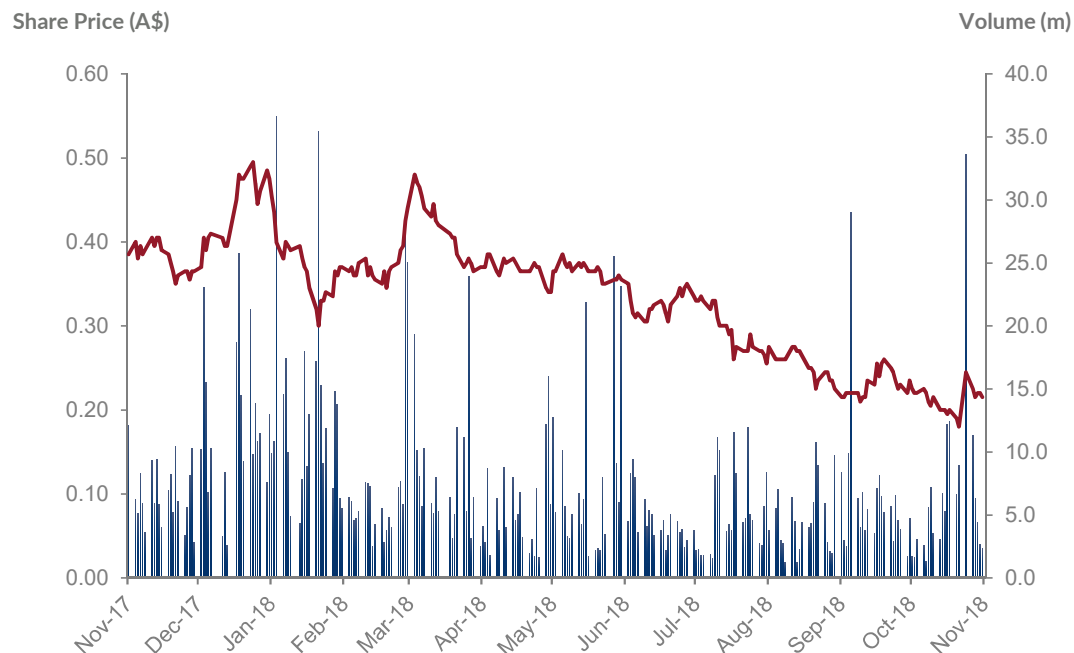


Capital Structure	AUD
Shares on Issue (as at 16 November 2018)	1,820.4m
Share Price (as at 16 November 2018)	\$0.215
Market Capitalisation	\$391m
Cash (as at 30 September 2018)	\$10.5m

Major Shareholders	In Company (%)
Furui Holdings Limited (Shaanxi J&R)	16.81%
Allan Buckler (Shazo Holdings Pty Ltd)	10.71%
Terry Smith	10.15%
Directors <sup>(1)</sup>	16.02%
Top 20	59.3%

(1) Excludes J&R shareholding

## 12 MONTH SHARE PRICE PERFORMANCE



# ALTURA INVESTMENT HIGHLIGHTS



1	<b>World Class Project</b>	<ul style="list-style-type: none"><li>▪ Low risk, low cost, low capex and long life, with excellent metallurgy, and significant upside via exploration</li></ul>
2	<b>Tier One Jurisdiction</b>	<ul style="list-style-type: none"><li>▪ Existing port and road infrastructure, with proximity to end users in Asia</li></ul>
3	<b>In Production</b>	<ul style="list-style-type: none"><li>▪ First shipment complete, regular shipment schedule agreed with offtake partners, delivering positive cashflow</li></ul>
4	<b>Stage 1 Production</b>	<ul style="list-style-type: none"><li>▪ Recent agreement with Ganfeng locks in 100% of Stage 1 production and option on 50% of Stage 2</li></ul>
5	<b>Positive Market Outlook</b>	<ul style="list-style-type: none"><li>▪ Driven by the EV “mega trend” and clean energy storage demand</li></ul>
6	<b>Attractive Valuation</b>	<ul style="list-style-type: none"><li>▪ Based on forecasts from Stage 1 production and from the Stage 2 DFS *</li></ul>
7	<b>Early Operational Success</b>	<ul style="list-style-type: none"><li>▪ Processing plant producing high-quality spodumene concentrate at or above offtake specification requirements</li></ul>

\* Refer to ASX Announcements 26 September 2016 and 30 April 2018



# ALTURA LITHIUM PROJECT

## Significant global hard rock lithium project

- ✓ 100% ownership of the Altura Lithium Project at Pilgangoora
- ✓ First shipment of high-grade lithium concentrate loaded early October and successfully delivered to Lionergy
- ✓ Regular shipments now underway to established offtake partners, generating positive cashflow
- ✓ Recently-signed offtake agreement with Ganfeng Lithium locks in 100% of Stage 1 production and highlights the quality of the Altura concentrate production
- ✓ Ongoing ramp-up of production over coming months to reach nameplate capacity of Stage 1 operations of 220,000 tpa SC6 Stage 1 capacity (circa 30,000 tpa LCE) \*
- ✓ Altura processing plant consistently producing high-quality spodumene concentrate at or above offtake specification requirements

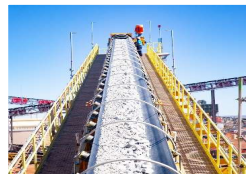
### Project Location



MINING



ROM PAD



PROCESSING



PRODUCT



TRUCKING



STORAGE



SHIPPING

\* Refer to ASX Announcements 26 September 2016 and 30 April 2018

# LITHIUM SHIPMENTS GENERATING POSITIVE CASH FLOW



- Production of coarse concentrate at the Altura Lithium Project commenced on 25 July 2018
- Haulage of concentrate to the Qube storage shed commenced on 8 August 2018
- First shipment of approximately 5,000 dmt (dry metric tonnes) departed Port Hedland on 9 October 2018 for offtake partner Lionergy
- Subsequent shipment of a further 5,000 dmt on 20 October 2018
- Production of high-quality spodumene concentrate has been consistently achieved and verified from shipping results
- Market feedback on product has been very positive
- Regular shipments now underway with delivery schedules as agreed with offtake partners



# PRODUCTION STATISTICS



- At steady-state operation, Altura Lithium will produce approximately 18,000t per month of lithium concentrate
- Average 1 – 2 shipments per month, depending on volumetric requirements
- Process plant consistently producing spodumene concentrate with average 6.0% Li<sub>2</sub>O, 1.1% Fe<sub>2</sub>O<sub>3</sub> and mica content of 0.8% - in line with offtake requirements and buyer expectations
- Plant production rate currently at 70% of nameplate capacity

Area / Description	Units	March Qtr 2018	June Qtr 2018	Sept Qtr 2018
Total Material Mined	BCM	103,880	299,527	625,881
Ore Mined	wmt	52,080	87,740	323,539
Ore Mined – Grade	%	1.04	1.11	1.21
Ore Crushed	wmt	-	6,263	99,993
Ore Processed	wmt	-	-	98,135
Lithium Concentrate Produced	wmt	-	-	7,379
Lithium Concentrate Hauled to Qube Shed	wmt	-	-	6,510





# STAGE 1 RAMP-UP ON SCHEDULE



- Scheduled 6 month ramp up on track with 70% of nameplate achieved after 4 months production
- Production predominantly coarse concentrate – well received by customers
- Fines concentrate production commenced
- No material issues identified with plant, equipment or process during commissioning and ramp-up
- Based on current progress, nameplate capacity is anticipated in the coming months



**Altura Coarse and Fines lithium concentrate**



# LONG-TERM OFFTAKE SECURED WITH GANFENG



## Offtake agreement with Ganfeng Lithium locks in 100% of Stage 1 production

- Binding offtake agreement with GFL International Co., Limited (wholly-owned subsidiary of Ganfeng Lithium) a leading global battery materials producer
- Supply to commence in 2018, with a minimum of 70,000 tonnes per annum to commence from 2019 until 2021
- Potential extensions of the agreement for up to a further 10 years
- The BOA further diversifies Ganfeng's existing supplier base and provides an option to increase supply through access to 50% of the Stage 2 expansion production from the Altura Lithium operations
- Offtake agreement with Ganfeng is further proof of the quality of product Altura is producing
- Altura continues to field enquiries regarding offtake which underpins the high-quality nature of the Altura Lithium Project



# KEY TERMS - OFFTAKE PARTNERS



- Minimum price of US\$550 dmt (FOB equivalent) based on  $\text{Li}_2\text{O}$  content per dmt on 6%  $\text{Li}_2\text{O}$  until end of 2020;
- Maximum price of US\$950 dmt (FOB equivalent) until end of 2020;
- Ganfeng pricing based on agreed formula incorporating published reference pricing weighted for lithium carbonate and lithium hydroxide; calculated quarterly in arrears (CIF basis), other Offtake Agreements are market based pricing.



- Minimum of 70,000 dry metric tonnes (dmt) per annum of 6% grade spodumene concentrate (SC6.0) with minimum 8,000 dmt commitment in 2018
- Term of BOA current to 31 December 2021 with a further 5 year extension at GFL election plus an additional 5 year extension by mutual agreement
- US\$11 million pre-payment on 2019 shipped cargoes
- GFL option to purchase any additional Stage 1 spodumene concentrate produced
- GFL option to increase supply via access to 50% of spodumene concentrate produced as part of Stage 2 expansion operations



- Minimum of 100,000 dry metric tonnes (dmt) per annum of 6% grade spodumene concentrate (pro-rated)
- Term of BOA of 5 years minimum
- First shipment of lithium concentrate delivered to Lionergy
- Additional cargo planned in 2018
- Undertaking construction of purpose built Lithium Carbonate / Hydroxide conversion plant. Completion in 2019.



- Minimum of 50,000 dry metric tonnes (dmt) per annum of 6% grade spodumene concentrate (SC6.0) with no tonnage commitment in 2018
- Removal of rights of any additional spodumene concentrate produced by Altura Lithium
- Any additional spodumene concentrate will be available for purchase by JRO upon mutual agreement basis
- All other key terms of existing agreement remain unchanged

# OFFTAKE PARTNERS



Offtake agreements secured for 100% of Stage 1 capacity of 220ktpa



- The world's third largest lithium compounds producer
- China's largest lithium compounds producer
- World's largest lithium metals producer in terms of production capacity (as of 31 December 2017, according to CRU)
- Ganfeng offers one of the most comprehensive product ranges amongst lithium compound and metal suppliers globally
- Dual listed on the Hong Kong and Shanghai Stock Exchanges
- Market Cap ~\$USD4.5B



- 20+ years in the Chinese lithium industry with excellent reputations and connections
- Exploration, mine development, concentrate sales and distribution
- Li<sub>2</sub>CO<sub>3</sub> and LiOH manufacturing and sales, lithium metal & cathode manufacturing for Li-ion batteries
- In process of constructing Li<sub>2</sub>CO<sub>3</sub> and LiOH conversion plant in Ulanqab, Inner Mongolia
- Stage 1 capacity 120ktpa SC6 concentrate
- Stage 2 capacity 240ktpa SC6 concentrate



OptimumNano®

- 100% owned subsidiary of Shenzhen-listed Shaanxi J&R Optimum Energy
- Customers include Dongfeng Motors, Sunlong Bus, Dayun Group, FAW Group, Haw Tai Motors
- Produced +100,000 battery sets in 2017
- 2017 production of 5.6GW of batteries, ranking No.3 in China
- Currently undergoing re-structuring to form larger New Energy entity covering raw material integration

# STAGE 1 – STAGE 2 DFS COMPARISON



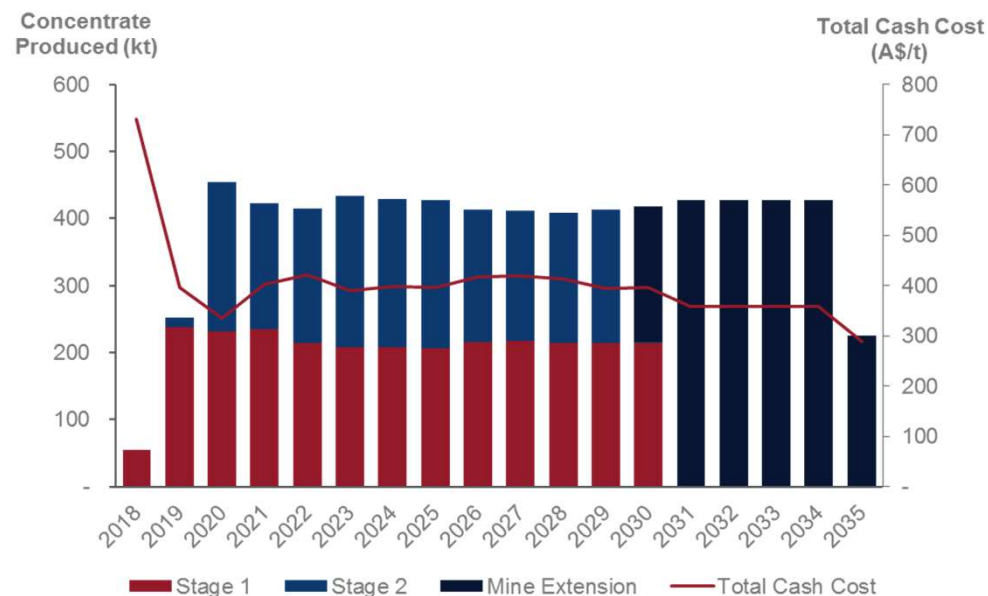
Altura Lithium Project is operating and delivering high quality lithium concentrate to the market

Description	Units	Stage 1	Stage 1&2 <sup>(1)</sup>
Run Rate Production	SC6 kt p.a.	220	440
Mine Life (on Reserves)	Years	23	13
Development Capex	A\$m	151	119 <sup>(2)</sup>
LOM Sustaining Capex (Real)	A\$m	31	31
LOM C1 Cost (Real)	A\$/t	356	324
LOM Total Cash Cost (Real)	A\$/t	428	400
Ore Mined (Reserves)	Mt	34.2	34.2
LOM Grade	% Li <sub>2</sub> O	1.04%	1.04%
Waste	Mt	106.2	106.2

(1) Refer to ASX Announcement 30 April 2018

(2) Excludes Stage 1 Capex

## PRODUCTION PROFILE



# STAGE 2 EXPANSION POTENTIAL



- Stage 2 DFS delivers an NPV of A\$835m (@10% discount rate) \*
- Material project upside potential through exploration targets extending asset life on the underexplored 16,000 hectare tenement package (only 600 hectares explored to date)
- Stage 2 DFS based on 34.2Mt Ore Reserve estimate (excludes latest Ore Reserve estimate upgrade of 41.1Mt)\*
- Opportunity for mine life extension via evaluation of tenement package

Metric	Units	Stage 2 DFS Case*
Pricing Scenario		DFS Pricing
Asset Life	Years	13
NPV (10% discount)	A\$m	835
Ore Mined	kt	34,214
Spodumene Concentrate Produced	kt	4,755
LOM EBITDA	A\$m	2,473

# DEMAND OUTLOOK

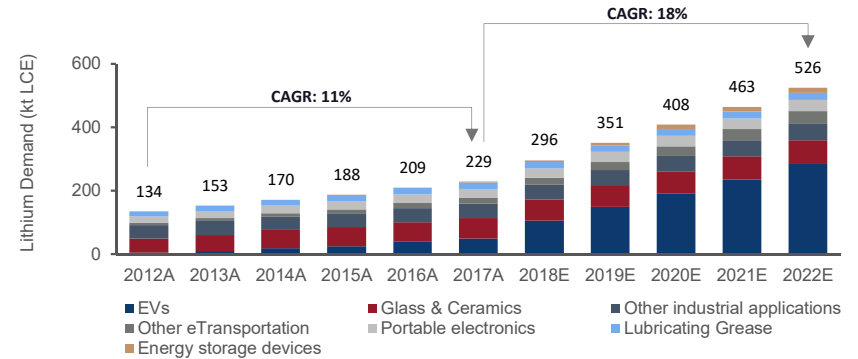


Worldwide lithium compounds and metals consumption is expected to achieve an 18% CAGR between 2017 and 2022

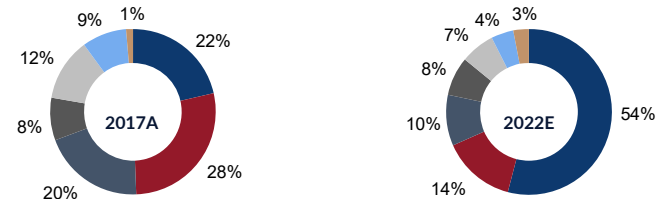
- Between 2012 and 2017, global lithium demand increased from 134kt LCE to 229kt LCE, at a CAGR of 11%. CRU forecasts that the rate of growth will accelerate to 18% during 2017-2022, with global lithium demand more than doubling to 526kt LCE
- 93% of the total demand growth will be from battery applications and electric vehicles (EVs) alone will account for 80% of the total demand growth. By 2022, lithium consumption in EVs will reach 54% of total lithium consumption compared to just 3% in 2012
- Lithium demand from industrial applications and portable electronics is expected to increase at a relatively slow, but steady, CAGR of 2.8% and 4.8% respectively between 2017 and 2022

Source: CRU estimates from Ganfeng IPO Documentation

Global Lithium Compounds and Metals Demand, 2012-2022 (kt LCE)



Global Lithium Compounds and Metals Demand by End Use





**THANK YOU AND  
QUESTIONS**

**ASX:AJM**



# LITHIUM SUPPLY



## The lithium market is predominantly served by 3 main countries – Australia, Chile and Argentina

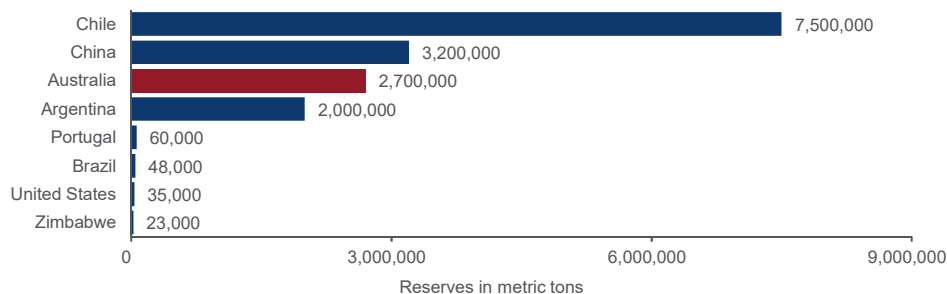
The lithium market is predominantly served by 3 main countries being Australia, Chile and Argentina. Australia is characterised by mined lithium and the Chile and Argentina by brines. China has both brines and mined lithium

Two-thirds of the world's lithium reserves are found in Chile (the world's largest lithium producer), Bolivia and Argentina, in what is known as the 'Lithium Triangle'. Bolivia has a number of large lithium salt deposits that have high Mg:Li ratios, making processing and lithium extraction uneconomic. Australia currently has a dominant spodumene presence globally

About half of current lithium production stems from Western Australian open pit mines extracting spodumene, and then concentrating the ore via beneficiation (dense media separation, flotation, etc.). The end spodumene concentrate is then sold to converters (essentially in China) to further upgrade the raw concentrate to carbonate and hydroxide end lithium applications (7.5-8 tonnes of acceptable spodumene concentrate is typically required for one tonne of lithium carbonate or hydroxide)

Source: Company Reports, Industry Reports, Deutsche Bank

Resources by Country, 2017



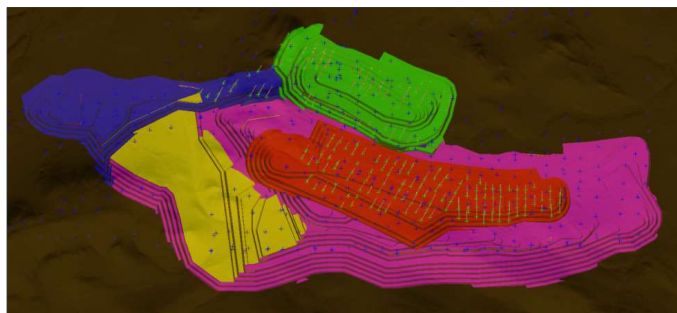
Global Lithium Supply by Country (kt LCE)

Country	2018E	2019E	2020E	2021E	2022E	2023E	2024E	2025E
Chile	94	107	119	131	137	137	137	137
Australia	159	252	315	336	346	345	345	342
Argentina	37	38	59	83	106	136	153	173
China	37	42	45	47	48	50	50	55
US & Mexico	6	6	6	6	16	21	29	36
Others	13	17	26	31	46	51	66	71
<b>Total (kt LCE)</b>	<b>346</b>	<b>461</b>	<b>570</b>	<b>633</b>	<b>698</b>	<b>739</b>	<b>779</b>	<b>814</b>
% Growth	35%	22%	17%	11%	11%	7%	5%	4%

# PROJECT RESERVES AND RESOURCES



Material and well-defined reserve position - 81% resource to reserve conversion achieved



Altura Pilgangoora Ore Reserve Estimate (May 2018)

JORC Category	Cut-off Li2O%	Tonnes (Mt)	Li2O%	Fe2O3	Li2O Tonnes
Proved	0.43%	8.3	1.14%	2.13	94,000
Probable	0.43%	32.8	1.03%	1.90	338,000
<b>Total</b>	<b>0.43%</b>	<b>41.1</b>	<b>1.05%</b>	<b>1.95</b>	<b>432,000</b>

## May 2018 Upgrade

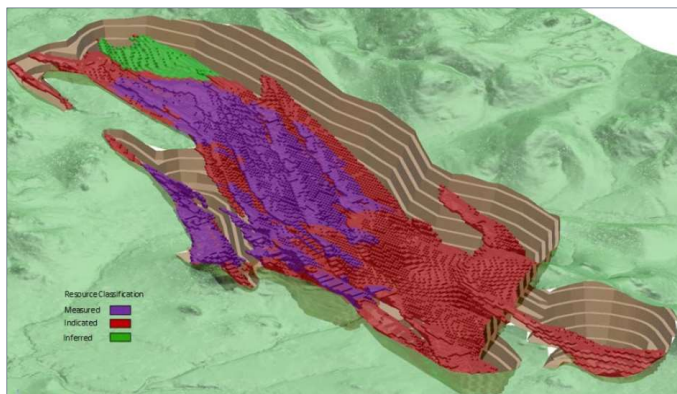
The increased estimate has added a minimum two years life to the project and will be incorporated into the Stage 2 expansion that was the subject of a recent robust Definitive Feasibility Study (see ASX release 30 April 2018).

The revised estimate, which followed the completion of a drill program in the Southern Ridge Deposit area, has also increased overall confidence in the project inventory by classification

“The resource and reserve upgrade was extremely positive and in line with Altura’s strategy of systematically increasing the resource inventory.”

“The exploration and development team have delivered some outstanding results that will not only add confidence to the existing operation but underpin the planned Stage 2 expansion to 440,000 tonnes per annum production.”

The material change in the Mineral Resource estimate is a result of the infill and confirmatory drilling improving the geological interpretation of the deposit and significantly reducing the risk associated with the categorisation of Measured and Indicated Resources. This improved confidence has resulted in a **conversion of 81%** of the Mineral Resources to Ore Reserves.



Altura Pilgangoora Mineral Resource Estimate (May 2018)

JORC Category	Cut-off Li2O%	Tonnes (Mt)	Li2O%	Fe2O3	Li2O Tonnes
Measured	0.40%	8.7	1.12%	2.14	97,000
Indicated	0.40%	38.0	1.00%	1.93	380,000
<b>Measured &amp; Indicated</b>	<b>0.40%</b>	<b>46.7</b>	<b>1.02%</b>	<b>1.97</b>	<b>477,000</b>
Inferred	0.40%	3.8	0.92%	1.96	35,000
<b>Total (Meas, Ind &amp; Inf)</b>	<b>0.40%</b>	<b>50.5</b>	<b>1.01%</b>	<b>1.96</b>	<b>512,000</b>

\* Refer to ASX Announcement 28 May 2018

# COMPETENT PERSONS STATEMENT

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The information in this report that relates to Exploration Results and the Mineral Resource for the Pilgangoora lithium deposit is based on information compiled by Mr Stephen Barber. Mr Barber is a Member of the Australasian Institute of Mining and Metallurgy. Mr Barber is the Exploration Manager at Altura Mining Limited and has sufficient experience that is relevant to the style of mineralisation under consideration and to the activity of mineral resource estimation 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 Barber consents to the inclusion in the report of the matters based on this information in the form and context in which it appears.

The information in this report that relates to the Ore Reserve for the Pilgangoora lithium deposit is based on information compiled by Mr Quinton de Klerk. Mr de Klerk is a Fellow of the Australasian Institute for Mining and Metallurgy. Mr de Klerk is a Director and Principal Consultant of Cube Consulting Propriety Limited and has sufficient experience that is relevant to the activity of ore reserve estimation 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 de Klerk consents to the inclusion in the report of the matters based on this information in the form and context in which it appears.

The Company confirms that it is not aware of any new information or data that materially affects the information included in the ASX announcements on 26 September 2016, 30 April 2018 and 28 May 2018.



# CHARGING AHEAD WITH ALTURA LITHIUM



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