



*The only ASX listed company producing high grade, high value  
lithium chemicals for global battery and technical markets*

# MARCH QUARTER 2019 KEY HIGHLIGHTS<sup>1</sup>

## OLAROZ LITHIUM FACILITY (ORE 66.5%)<sup>2</sup>

- Q3 FY19 production was 3,075 tonnes, the best March quarter achieved to date at Olaroz. Production was up 10% on the prior corresponding period (PCP) following pond preparation and a strategy of managing brine quality. Production for the year to date is 9,150 tonnes and Orocobre expects full year production to be approximately the same as FY18 which was 12,470 tonnes
- Quarterly sales revenue was US\$33.4 million, up 4% QoQ with a realised average price achieved of US\$9,451/tonne on a free on board basis (FOB)<sup>3</sup>. March quarter product pricing was below that of the December quarter due to both direct and indirect impacts of China's prolonged market softness. Sales volume for the quarter was up 17% QoQ to 3,530 tonnes
- Gross cash margins (excluding export tax) of US\$5,258/tonne were down 20% QoQ due to the lower average price received
- Cash costs for the quarter (on cost of goods sold basis)<sup>4</sup> were US\$4,193/tonne, down 4% on PCP excluding the recently announced export tax of US\$776/t.

## LITHIUM GROWTH PROJECTS

- Subsequent to the end of the quarter Orocobre, Toyota Tsusho Corporation (TTC) and Joint Venture (JV) boards approved the Final Investment Decision (FID) for the Naraha Lithium Hydroxide Plant to be built in Japan. Orocobre will hold a 75% economic interest in the project with operations to be managed by TTC
- Construction of the Naraha Lithium Hydroxide Plant is expected to commence during H1 CY19 with commissioning to commence during H1 CY21
- Construction of key items for the Stage 2 Expansion of the Olaroz Lithium Facility such as ponds, secondary liming plant, roads and camp upgrades have continued to advance

## BORAX ARGENTINA

- Overall sales volume in the March quarter was up 21% QoQ (+44% on PCP) to 13,041 tonnes which included a sale of 2,312 tonnes of low value mineral. Excluding these mineral sales the result is in line with Q2 FY19
- Sales revenue was up 4% QoQ and average price received was up 3.5% QoQ adjusting for the low value mineral sale.

## CORPORATE

- During the quarter Orocobre Managing Director and CEO Mr. Martín Pérez de Solay attended the Lithium Competitiveness Meeting 'Mesa de Litio 2019' – chaired by Argentine President Mauricio Macri. This Lithium Roundtable conference was to address productivity issues in the lithium industry and to determine what government assistance is required to remove bottlenecks affecting industry development. The conference was attended by Argentina's Minister of Production and Labour, Dante Sica and the Governor of Jujuy, Gerardo Morales
- Orocobre released the 2018 Sustainability Report during the quarter ([see ASX Release dated 22 March 2019](#))

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1 All figures presented in this report are unaudited

2 All figures 100% Olaroz Project basis

3 Orocobre report price as "FOB" (Free On Board) which excludes additional insurance and freight charges included in "CIF" (Cost, Insurance and Freight or delivered to destination port) pricing. The key difference between an FOB and CIF agreement is the point at which responsibility and liability transfer from seller to buyer. The Company's pricing is also net of TTC commissions but excludes export taxes. FOB prices are used by the company to provide clarity on the sales revenue that flows back to SDJ, the joint venture company in Argentina

4 Excludes royalties, export tax and corporate costs



- As at 31 March 2019, Orocobre corporately had available cash of US\$265.7 million after expenditure mainly related to expansion activities, Naraha Lithium Hydroxide Plant basic engineering, corporate expenses, Cauchari JV expenditure, Borax working capital and debt repayment which was partially offset by interest income. Including Sales de Jujuy and Borax cash and project debt, net group cash is US\$192.9 million.



*Orocobre MD and CEO Mr. Martín Pérez de Solay attending 'Mesa de Litio 2019' pictured to the right of President Mauricio Macri of Argentina*

## CAUCHARI JOINT VENTURE

### (ADVANTAGE LITHIUM OPERATOR 75% / OROCOBRE 25%)

- During the quarter Advantage Lithium released an updated resource estimate for the Cauchari JV property. The updated resource estimate has more than doubled from the previous resource announced in May 2018 to 4.8 Mt of lithium carbonate equivalent (LCE) of Measured and Indicated Resources contained in 1.8 km<sup>3</sup> of brine and 1.5 Mt of Inferred Resource.

# OLAROZ LITHIUM FACILITY

[Click here for more information on Olaroz](#)

## SAFETY

Unfortunately, an incident occurred at Olaroz during the quarter resulting in a Lost Time Injury (LTI) being recorded. The person has now returned to work on full duties. As of 31 March, operations had achieved 20 days without an LTI.

Based on the in-depth Safety Audit conducted by DuPont, which evaluated Sales de Jujuy S.A. (SDJ) safety performance, an improvement roadmap was developed to address the key risks and priorities identified. The Company and DuPont are continuing to work together to develop and foster the Company's safety culture.

## PRODUCTION, SALES AND OPERATIONAL UPDATE

### PRODUCTION AND SALES

During the quarter Orocobre provided an update on the impact of rainfall and expected production for the remainder of the financial year. Rainfall exceeded the same period in 2017 and 2018 resulting in dilution of brine feedstock. There were no material production stoppages, nor disruption to the import of supplies or the export of finished product. However, FY19 was the highest Q3 production achieved to date, up 10% on PCP. Orocobre continues to expect FY19 production to be approximately the same as that achieved in FY18. Production for the March quarter was 3,075 tonnes up from 2,802 tonnes on PCP and down 19% from 3,782 tonnes in the December quarter.

Sales were 3,530 tonnes of lithium carbonate with a realised average price of US\$9,451/tonne on a FOB basis and total sales revenue of US\$33.4 million. The average price received during the quarter was 11% down QoQ. Prices achieved outside of China were influenced by growing competition from increased Chinese exports responding to subdued domestic demand.

Gross cash margins for the quarter (excluding export tax) remained strong at 56% or US\$5,258/tonne but down 20% QoQ and 43% on PCP. Operating costs (on a cost of goods sold basis, excluding export tax) were US\$4,193/tonne up 6% QoQ and down 4% on the March 2018 quarter. An 11% QoQ decrease of the realised average price received contributed to an 11% QoQ decrease in gross cash margin achieved.

Metric	March quarter 2019	December quarter 2018	Change QoQ (%)	PCP (Mar FY18)	Change PCP (%)
Production (tonnes)	3,075	3,782	-19%	2,802	10%
Sales (tonnes)	3,530	3,019	17%	3,052	16%
Average price received (US\$/tonne) <sup>3</sup>	9,451	10,587	-11%	13,533	-30%
Cost of sales (US\$/tonne) <sup>4</sup>	4,193	3,974	6%	4,356	-4%
Revenue (US\$M)	33.4	32	4%	41.3	-19%
Gross cash margin (US\$/tonne)	5,258	6,613	-20%	9,177	-43%
Gross cash margin (%)	56%	62%	-11%	68%	-18%
Export tax (US\$/tonne)	776	882	-12%		

## **OPERATIONAL UPDATE**

The operational strategy has been focused on safety and quality. Special attention is being devoted to improving the lithium grade of brine feedstock - "brine quality". Improved brine quality has multiple benefits including higher lithium recoveries, lower cost of production and increased product quality and consistency.

Battery grade carbonate production was temporarily suspended while brine quality recovered during March following rain in January and February. Customers requiring battery grade lithium carbonate were supplied from inventory during this period. Production of battery grade lithium carbonate will recommence in the June quarter.

Six of the eight Stage 1 harvest ponds have now been cleared of harvestable salt which precipitated through the evaporation process. The final two ponds are currently being harvested. Pond harvesting enables the recovery of brine that is retained in the salts which can then be processed in the plant. With the increase in area from development of Stage 2 ponds, future salt harvesting will become a continuous process where ponds are harvested on a rotational basis over a three year cycle.

## **FUTURE PRODUCTION GUIDANCE**

Orocobre expects that full-year production for FY19 will be approximately the same as that achieved in FY18 which was 12,470 tonnes. Year to date production has been 9,150 tonnes which is up from 8,874 tonnes over the same period in FY18.

## **STAGE 2 EXPANSION AT OLAROZ**

The Stage 2 Expansion of Olaroz is fully funded with cash and proposed debt funding arrangements.

### **PROGRESS TO DATE**

Construction of key items for the Stage 2 Expansion such as ponds, secondary liming plant, roads and camp upgrades continued to advance during Q3 FY19.

At Quarter end approximately US\$29 million has been spent on the first phase of expansion activities including the construction of new roads, vegetation clearing, construction of new evaporation and harvest ponds, secondary liming plant, eight boreholes (currently four drilling rigs onsite with two more contracted to start mid-May). The expansion of existing site infrastructure and camp accommodation continued including a new health center for the extended work force, office space for the expansion team and warehouses for equipment. The new camp accommodation facilities and catering facilities were completed during the quarter.

As part of the Stage 2 Expansion the process flow diagrams, layouts and equipment lists were finalised during the quarter. An Engineering, Procurement, Management and Construction (EPCM) company has been selected after a tender process. The successful company was Jacobs, a well-known international construction company with more than 20 years' experience in Argentina (through its subsidiary company CH2M Hill) who has built many mining/chemical/petroleum plants. Jacobs in association with WorleyParsons (a company that has more than 20 years' experience in the design and construction of lithium plants in Chile and Argentina) will oversee the chemical process review and design. The project's budget and timeline are now being reviewed by Orocobre and Jacobs.

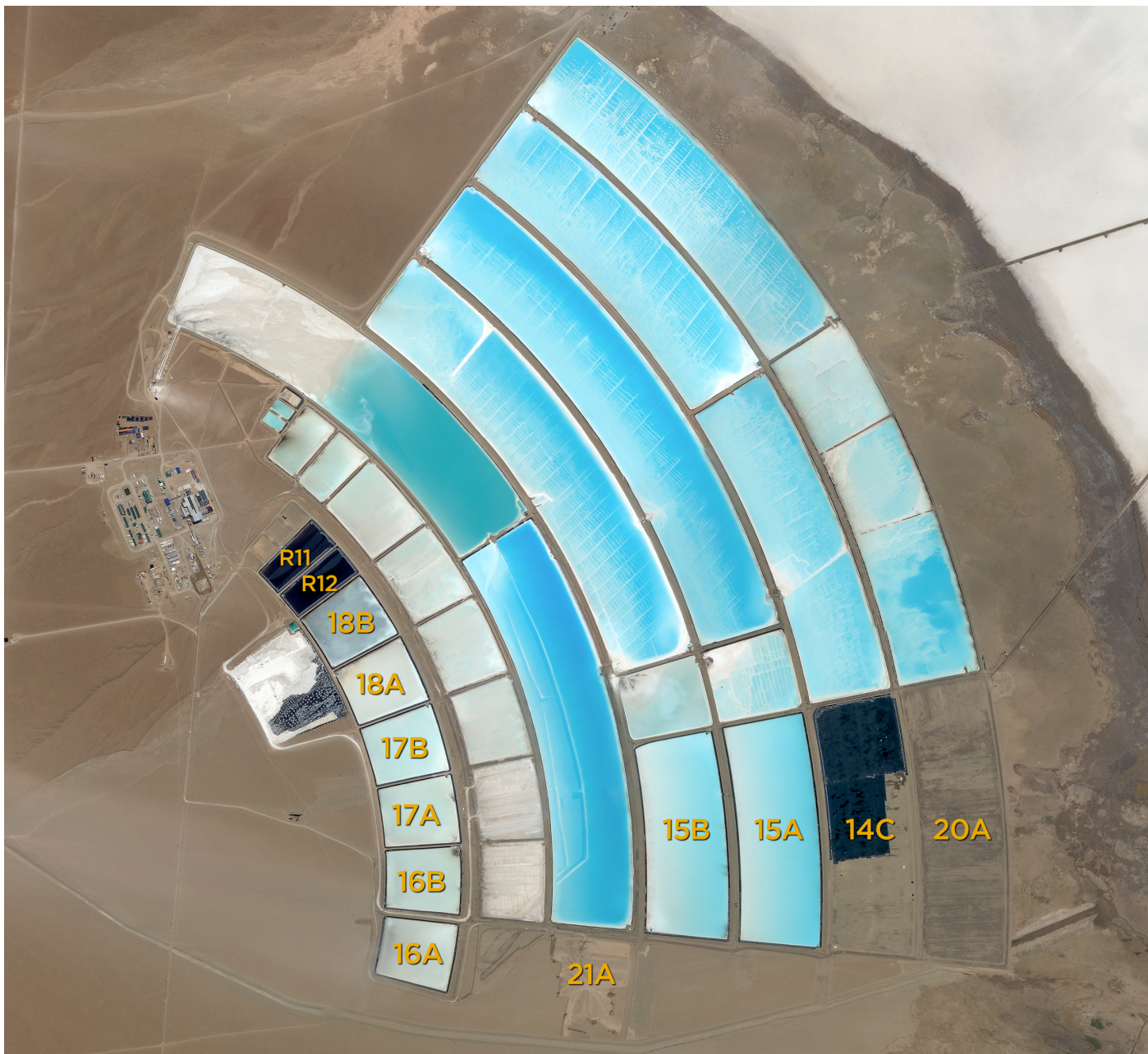
Six new harvest ponds (16A, 16B, 17A, 17B, 18A & 18B) have been filled with concentrated brine and are operational, replacing pond area that is temporarily unavailable due to salt harvesting activities as discussed earlier. Two additional harvest ponds (R11 & R12) were completed during the quarter and will be filled with concentrated brine during the June quarter.

Two new evaporation ponds (15A & 15B) have now been filled with concentrated brine and are operational. Vegetation clearing and construction of three new evaporation ponds has commenced (14C, 20A & 21A). Brine transfer ducts are also under construction.

Engineering and civil works for the secondary mobile liming plant were completed during the quarter, including the construction of concrete slabs and the delivery of tanks with installation to commence during the June quarter. The secondary liming plant will have the capacity to treat up to 300 l/s of brine.

During the quarter construction began on a new reactor for the existing primary liming plant. This reactor will enable the primary liming plant to process a higher flow rate of brine before the Stage 2 liming plant is built permitting brine stocks to be increased and facilitating the rapid filling of Stage 2 ponds. A mobile secondary liming plant is expected to be installed by late April. Between both plants, there will be capacity to treat up to 600 l/s of brine.





*Six new harvest ponds and two new evaporation ponds are now operational at Olaroz*

## SHARED VALUE PROGRAM AND COMMUNITY

SDJ's community engagement and investment initiatives during the March quarter continued in accordance with the Company's Shared Value approach.

### EDUCATION

With the start of the 2019 calendar year, SDJ welcomed a new intake of students to the employee education program. SDJ continued towards its goal of having 100% of SDJ's community employees holding secondary education qualifications by 2025.

Enhancing educational infrastructure within communities remains a key focus, with a new music hall and laboratory facility inaugurated in Olaroz and an Institutional Improvement Plan implemented collaboratively with Susques Primary School to renovate amenities for local students.





*Inauguration ceremony at Sales de Jujuy's Olaroz Chico Community Music Hall and Laboratory*

#### **TRANSPARENCY**

Initiatives included a presentation and consultation with communities on the most recent update to SDJ's Environmental Impact Assessment as well as quarterly environmental monitoring activities conducted with participants from local communities.

#### **EMPOWERMENT**

The focus during the quarter was on the evaluation of community suppliers to identify opportunities for focused development and capacity building. SDJ is committed to ensuring these suppliers are supported to not only stabilise and scale their operations over coming years but also to operate in a socially and environmentally responsible manner.

#### **PRODUCTION AND NATURAL RESOURCES**

Programs to strengthen local artisanal production were progressed during the quarter, with significant developments in the fibre spinning project in Huancar and the development of a 'waste upcycling' initiative in Susques to build awareness of individual responsibility and contribution to protect the local environment.

## **MARKET AND SALES**

#### **LITHIUM MARKET**

Orocobre views current market conditions as a short-term correction which has led much of the market to overlook strong long-term demand fundamentals driven by growth in the electric vehicle (EV) and energy storage system (ESS) segments. Accordingly, Orocobre maintains long-term demand forecasts in line with the consensus of other major producers in the range of 18% to 20% CAGR between 2018 and 2025.

#### **SEABORNE SUPPLY**

During Q3 FY19, the spread of pricing in the seaborne market widened to reflect an increasingly complex market environment as factors, including strategic partnering, product qualification periods, broad product specification ranges, contract length and

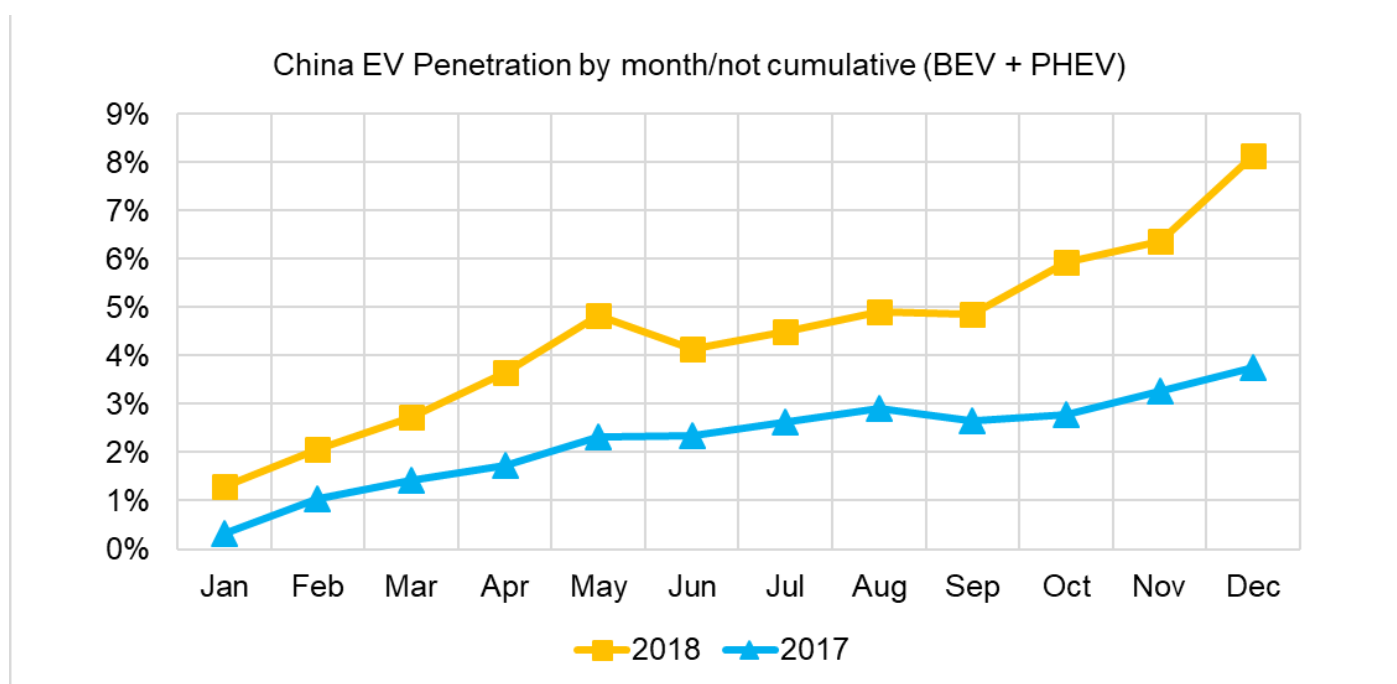
time at which the contract price was negotiated, resulted in a greater range of pricing outcomes. Seaborne prices and market balance were unaffected by widespread rainfall across South America having a lower-than-anticipated impact of ~5 kt LCE based on supplier guidance. Nonetheless, there may be potential for a delayed impact later in the year as the downstream battery chain enters the peak production period and should the Chinese market and economy improve.

## CHINESE MARKET

Following the conclusion of China's New Year holiday period, independent Chinese conversion plants demonstrated little appetite to build inventory despite widespread announcements of lower spodumene prices in 2019. Similarly, Chinese lithium chemical customers were resistant to establishing long-term agreements instead preferring to negotiate on a shipment-by-shipment basis, as communicated by key suppliers during the most recent earnings calls. As a result, Chinese imports continued to decline as suppliers became increasingly focused on key long-term growth markets with less volatility including South Korea, Japan and Europe.

## CHINESE EV POLICY & MARKET

The compound effect of China's economic instability and the later-than-anticipated NEV (New Electric Vehicle) policy announcement meant there was little to drive Chinese demand. After much anticipation, the updated Chinese NEV policy was announced late in the quarter on 26 March indicating subsidies would be cut by between 47% and 60% for EV's that met the minimum range requirement. Orocobre views the progressive reduction to China's EV policy as an effective way of improving the technical standards and performance of China's battery and EV industry. Despite the current industry restructuring, China continues to record robust electric vehicle sales achieving 198% year-on-year growth in January 2019 (includes full battery EV, BEV and plug-in hybrid PHEV), while EV sales as a proportion of total sales increased to 8.1% in December 2018 compared with 3.8% a year earlier.



(Source: EV Volumes)

## QUALIFICATIONS & CONTRACTS

The Joint Venture through exclusive sales agent TTC is currently progressing commercial discussions with customers in regard to longer term supply contracts for both purified and prime grade products in the battery and non-battery market segments. The Joint Venture's intention is to significantly increase the proportion of business under longer term (> 1 year) contractual arrangements underpinned by sound value propositions defined and agreed with customers.



# NARAH LITHIUM HYDROXIDE PLANT

## FINAL INVESTMENT DECISION APPROVED

Subsequent to the end of the quarter Orocobre, TTC and JV boards approved the FID for the Naraha Lithium Hydroxide Plant to be built in Japan. Orocobre will hold a 75% economic interest in the project with operations to be managed by TTC.

Construction of the Naraha Lithium Hydroxide Plant is expected to commence during H1 CY19 with commissioning to commence during H1 CY21. The Naraha Joint Venture will be overseen by a Joint Technical Committee during construction and commissioning. The Joint Technical Committee will comprise both TTC and Orocobre representatives.

Feedstock for the 10,000 tonne per annum (tpa) Naraha Lithium Hydroxide Plant will be sourced from the Olaroz Lithium Facility's Stage 2 Expansion that will produce primary grade (>99.0% Li<sub>2</sub>CO<sub>3</sub>) lithium carbonate.

The total Engineer-Procure-Construct (EPC) contract value is expected to be approximately JPY8.6 billion (US\$77.6 million<sup>1</sup>, excluding VAT) following detailed engineering studies, the inclusion of a calciner to recycle lime used in processing and significant automation of the process. The Joint Venture Company will be entitled to a Japanese government subsidy of JPY3 billion (US\$27.1 million<sup>1</sup>) which will reduce net capital costs to JPY5.6 billion (US\$50.5 million<sup>1</sup>, excluding VAT). Operating costs (excluding primary grade lithium carbonate feedstock) for the Naraha Lithium Hydroxide Plant are estimated to be approximately US\$1,500/tonne.

Sales of lithium hydroxide will be managed by TTC as exclusive sales agent under a similar joint marketing arrangement to that operating for lithium carbonate from the Olaroz Lithium Facility. The majority of production is expected to be delivered to the Japanese battery industry.

A cathode manufacturing plant is already in operation in the immediate vicinity and plans have been announced to develop a battery manufacturing facility nearby.

## FINANCING

The Naraha Lithium Hydroxide Plant will be funded through a combination of JPY9.1 billion (US\$82.1 million<sup>1</sup>) of term/bridging loans and JPY1.0 billion (US\$9.0 million<sup>1</sup>) of shareholder equity. Orocobre will contribute JPY750 million (US\$6.8 million<sup>1</sup>) equity and TTC will contribute JPY250 million (US\$2.3 million<sup>1</sup>).

Two project loans have been provided by Japanese banks at effective interest rates of <1%. All of the financing is non-recourse to Orocobre.

Term Loan	JPY6.1 billion	US\$55.0 million <sup>1</sup>
Subsidy Bridge Loan	JPY3.0 billion	US\$27.1 million <sup>1</sup>
Equity	JPY1.0 billion	US\$9.0 million <sup>1</sup>
<b>Total</b>	<b>JPY10.1 billion</b>	<b>US\$91.1 million<sup>1</sup></b>

In addition, a JPY0.8 billion (US\$7.2 million<sup>1</sup>) VAT Bridging Loan has been established to cover the period between VAT payment and VAT refunds on project expenditure.

The subsidy of approximately JPY3.0 billion (US\$27.1 million<sup>1</sup>) from the Japanese government is expected to be received in H1 CY21 once the project reaches mechanical completion.

The Term Loan will be repaid from operating cash flow with a maximum term of seven years. The Subsidy Bridge Loan will be repaid upon receipt of Subsidy payments and the VAT Bridge Loan will be repaid from VAT refunds.

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<sup>1</sup> The EPC contract and all financing is denominated in Japanese Yen and has been converted at a JPYUSD exchange rate of 110.9

# BORAX ARGENTINA

## SAFETY

An incident occurred at the Sijes mine during the quarter resulting in an LTI being recorded. As of 31 March, the Sijes mine achieved 46 days without an LTI, Tincalayu had achieved 704 days without an LTI and Campo Quijano had achieved 387 days without an LTI. Prior to an LTI being recorded at the Sijes mine during February, the site had achieved a record of 1,249 days without an LTI.

## PRODUCTION, SALES AND OPERATIONAL UPDATE

Borax Argentina continues to demonstrate improved year on year sales performance. Business development projects are being progressed and will continue to remain a key area of focus in CY19. The business has demonstrated continuous improvement on cost reduction and unit costs continue to be controlled at, or near record lows.

Q3 FY19 delivered some very positive results for Borax Argentina with 13,041 tonnes sold (+21% QoQ and +44% PCP) which included a spot sale of 2,312 tonnes of low value mineral product. Removing this transaction from the quarterly sales volume delivers a result of 10,729 tonnes which is in line with Q2 FY19 and up 18% on PCP.

Total sales revenue was up 4% QoQ and the average price received after adjusting for the low value mineral sale was up 3.5% QoQ.

## COMBINED PRODUCT SALES VOLUME BY QUARTER

Previous Year Quarters		Recent Quarters	
June 2017	11,398	June 2018	10,590
September 2017	8,543	September 2018	9,407
December 2017	8,341	December 2018	10,741
March 2018	9,079	March 2019	13,041

## TINCALAYU EXPANSION STUDY

The study on an expansion of the Tincalayu refined borates operation is in the final stage of internal review. Approvals have been received for a new gas pipeline to supply the expanded plant and initial cost estimates are under review.

# ADVANTAGE LITHIUM

Advantage Lithium Corp (TSV:AAL) manages a portfolio of high-quality assets in Argentina, including the Cauchari Joint Venture in which Orocobre holds a 25% interest. Orocobre also holds approximately 33.5% of the issued shares of AAL.

## CAUCHARI JV PROJECT

The Cauchari Project is located in Jujuy province in NW Argentina.

During the quarter Advantage Lithium released an updated resource estimate for the Cauchari JV property. The updated resource estimate ([see ASX Release dated 7 March 2019](#)) has more than doubled from the previous resource announced in May 2018. A Pre-Feasibility Study will now be conducted to determine the optimal processing and development option for the expanded resource.

The resources have been broken into six different geological units which are classified between Measured, Indicated and Inferred resources, with the classification reflecting differences in the level of available sample information. The resource estimate is presented in the table below.

### Cauchari Project Lithium Resource Estimate; March 2019

	Measured (M)	Indicated (I)	M+I	Inferred
<b>Aquifer volume (km<sup>3</sup>)</b>	9.7	20.9	30.7	10.7
<b>Mean specific yield</b>	6%	6%	6%	6%
<b>Brine volume (km<sup>3</sup>)</b>	0.6	1.2	1.9	0.6
<b>Li mean grade (g/m<sup>3</sup>)</b>	35	26	29	27
<b>Li mean concentration (mg/l)</b>	527	452	476	473
<b>Resource (tonnes)</b>	<b>345,000</b>	<b>550,000</b>	<b>900,000</b>	<b>290,000</b>
<b>Lithium Carbonate Equivalent</b>	<b>1,850,000</b>	<b>2,950,000</b>	<b>4,800,000</b>	<b>1,500,000</b>

Results of the brine chemistry analysis carried out as part of the updated resource estimate confirm the Cauchari brine is similar in composition to the brine in the adjacent Olaroz Salar from which Orocobre is successfully producing lithium carbonate using conventional lithium processing technology. The table below provides a summary of the Cauchari brine characteristics.

### Cauchari brine chemistry characteristics

Samples Ratio	Archibarca Fan	Clay	East Fan	Halite	Deep Sand	West Fan
<b>Mg/Li</b>	2.3	2.5	1.6	2.7	2.5	3.2
<b>SO<sub>4</sub>/Li</b>	26.2	39.7	88.7	44.3	38.1	38.4



# CORPORATE AND ADMINISTRATION

## FINANCE

### VAT

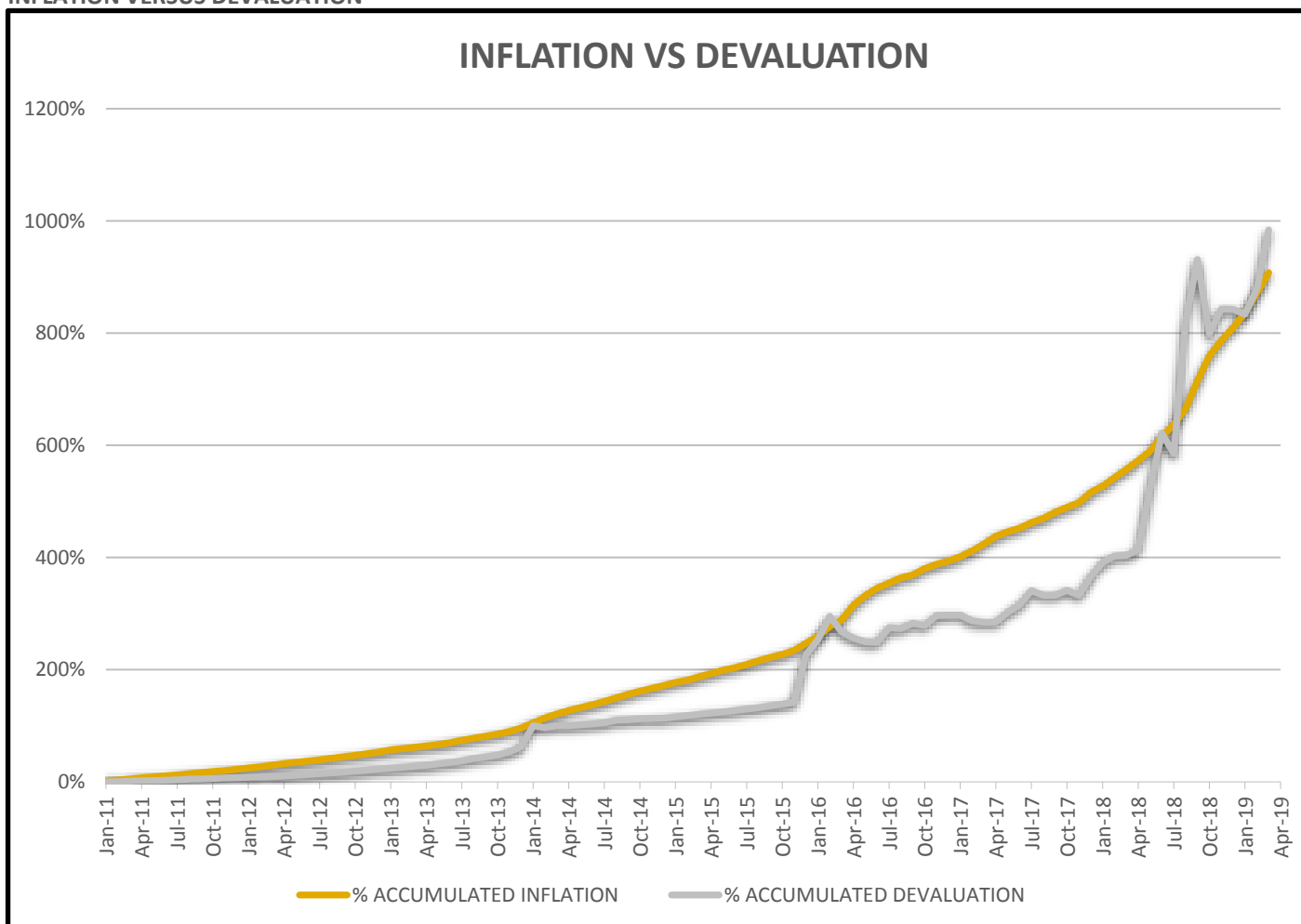
VAT refunds of approximately ~US\$0.5 million were received during the quarter. Approximately US\$2 million of peso denominated returns were lodged and are expected to be received next quarter. The current VAT claims awaiting payment are US\$3.3 million.

### CASH BALANCE

As at 31 March 2019, Orocobre corporate had available cash of US\$265.7million. The US\$18.3 million cash reduction from the prior quarter was the result of a US\$15 million shareholders loan made to the SDJ joint venture to fund Olaroz expansion activities, US\$1.5 million in corporate costs, US\$1.1 million in payments to other group entities, US\$0.8 million in Cauchari JV expenditure, US\$1.3 million funding to Borax (mainly to repay banking facilities), US\$0.7 million LiOH plant and US\$0.1 million of forex losses. This expenditure was partially offset by US\$2.2 million interest income.

Including SDJ and Borax cash and project debt, net group cash at 31 March 2019 is US\$192.9 million, down from US\$207.7 million at 31 December 2018.

### INFLATION VERSUS DEVALUATION



The AR\$/US\$ exchange rate devalued by 15% during the quarter with government intervention on interest rates and other measures. At 31 December 2018 the rate was AR\$37.70/US\$ and this weakened to AR\$43.35/US\$ at 31 March 2019 whilst

inflation for the same period was approximately 11%. This devaluation partially offsets the impact of the export tax that was announced in 2018.

When looking at the accumulated 12-month period from 1 April 2018 to 31 March 2019, devaluation of the AR\$ against the US\$ was 115% versus inflation of approximately 53%. This resulted in balancing US\$ costs for ARS peso denominated expenses for the period considering the delayed response in devaluation vs inflation in previous periods. As a result, costs were lower for Borax Argentina and to a lesser extent, SDJ. Over time, inflation and devaluation generally cancel each other out.

## OTHER MATTERS

During the quarter Mr Martín Pérez de Solay was appointed to the role of Managing Director and Chief Executive Officer taking over from Mr Richard Seville. Mr Seville ceased formal employment with Orocobre on 16 April following a period of annual leave. The Board has approved the vesting of 145,073 of his 316,490 outstanding performance rights consistent with the Good Leaver provisions of the Orocobre Performance Rights and Options Plan (PROP). Mr Seville will also be eligible to participate in the Orocobre 2018/19 Short Term Incentive (STI) plan on a pro rata basis. There has been no payment for the 12 month fixed remuneration termination benefit as per his service agreement following notice. The vesting of outstanding performance rights is in recognition of Mr Seville's significant contribution to Orocobre and his participation in the transition with our new CEO.

## FOR FURTHER INFORMATION PLEASE CONTACT:

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# ABOUT OROCOBRE LIMITED

Orocobre Limited is listed on the Australian Securities Exchange and Toronto Stock Exchange (ASX:ORE) (TSX:ORL) and is building a substantial Argentinian-based industrial chemicals and minerals company through the construction and operation of its portfolio of lithium, potash and boron projects and facilities in the Puna region of northern Argentina. The Company has built, in partnership with Toyota Tsusho Corporation and JEMSE, the first large-scale, greenfield brine-based lithium project in approximately 20 years at the Salar de Olaroz with planned production of 42,500 tpa of low-cost lithium carbonate.

The Olaroz Lithium Facility has a low environmental footprint because of the following aspects of the process:

- The process is designed to have a high processing recovery of lithium. With its low unit costs, the process will result in low cut-off grades, which will maximise resource recovery.
- The process route is designed with a zero liquid discharge design. Waste products are stored in permanent impoundments (the lined evaporation ponds). At the end of the project life the ponds will be capped and returned to a similar profile following soil placement and planting of original vegetation types.
- Brine is extracted from wells with minimum impact on freshwater resources outside the salar. Because the lithium is in sedimentary aquifers with relatively low permeability, drawdowns are limited to the salar itself. This is different from halite hosted deposits such as Salar de Atacama, Salar de Hombre Muerto and Salar de Rincon where the halite bodies have very high near surface permeability and the drawdown cones can impact on water resources around the Salar affecting the local environment.
- Energy used to concentrate the lithium in the brine is solar energy. The carbon footprint is lower than other processes.
- The technology developed has a very low maximum fresh water consumption of <20 l/s for current production which is low by industry standards. This fresh water is produced by reverse osmosis from non-potable brackish water.
- Sales de Jujuy S.A. is also committed to the ten principles of the sustainable development framework as developed by The International Council on Mining and Metals. The Company has an active and well-funded “Shared Value” program aimed at the long-term development of the local people.

In accordance with its Community Policy, Orocobre continues to empower its communities through capacity building initiatives, and to encourage and facilitate direct and indirect community involvement in its activities. Priority in employment and procurement is given to the local communities of Olaroz, Huancar, Puesto Sey, Pastos Chicos, Susques, Catua, Jama, El Toro, Coranzuli and San Juan, all of which receive the necessary education, training, development and support through Orocobre’s Shared Value program.

## TECHNICAL INFORMATION, COMPETENT PERSONS’ AND QUALIFIED PERSONS STATEMENTS

The Company is not in possession of any new information or data relating to historical estimates that materially impacts on the reliability of the estimates or the Company’s ability to verify the historical estimates as mineral resources, in accordance with the JORC Code. The supporting information provided in the initial market announcement on 21/08/12 continues to apply and has not materially changed. Additional information relating to the Company’s Olaroz Lithium Facility is available on the Company’s website in “Technical Report – Salar de Olaroz Lithium-Potash Project, Argentina” dated May 13, 2011 which was prepared by John Houston, Consulting Hydrogeologist, together with Mike Gunn, Consulting Processing Engineer, in accordance with NI 43-101.

The information in this report that relates to exploration reporting at the Cauchari JV project has been prepared by Mr. Murray Brooker. Murray Brooker is a geologist and hydrogeologist and is a Member of the Australian Institute of Geoscientists. Mr. Brooker is an employee of Hydrominex Geoscience Pty Ltd and is independent of Orocobre. Murray has sufficient relevant experience 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. He is also a “Qualified Person” as defined in NI 43-101. Murray Brooker consents to the inclusion in this announcement of this information in the form and context in which it appears.



## CAUTION REGARDING FORWARD-LOOKING INFORMATION

Forward-looking information may include, but is not limited to, the successful ramp-up of the Olaroz Project, and the timing thereof; the design production rate for lithium carbonate at the Olaroz Project; the expected brine grade at the Olaroz Project; the Olaroz Project's future financial and operating performance, including production, rates of return, operating costs, capital costs and cash flows; the comparison of such expected costs to expected global operating costs; the ongoing working relationship between Orocobre and the Provinces of Jujuy and Salta in Argentina; the on-going working relationship between Orocobre and the Olaroz Project's financiers, being Mizuho Bank and JOGMEC and the satisfaction of lending covenants; the future financial and operating performance of the Company, its affiliates and related bodies corporate, including Borax Argentina S.A. (Borax Argentina); the estimation and realisation of mineral resources at the Company's projects; the viability, recoverability and processing of such resources; timing of future exploration of the Company's projects; timing and receipt of approvals, consents and permits under applicable legislation; trends in Argentina relating to the role of government in the economy (and particularly its role and participation in mining projects); adequacy of financial resources, forecasts relating to the lithium, boron and potash markets; potential operating synergies between the Cauchari Project and the Olaroz Project; the potential processing of brines from the Cauchari Project and the incremental capital cost of such processing, expansion, growth and optimisation of Borax Argentina's operations; the integration of Borax Argentina's operations with those of Orocobre and any synergies relating thereto and other matters related to the development of the Company's projects and the timing of the foregoing matters.

Forward-looking statements are based on current expectations and beliefs and, by their nature, are subject to a number of known and unknown risks and uncertainties that could cause the actual results, performances and achievements to differ materially from any expected future results, performances or achievements expressed or implied by such forward-looking statements, including but not limited to, the risk of further changes in government regulations, policies or legislation; that further funding may be required, but unavailable, for the ongoing development of the Company's projects; fluctuations or decreases in commodity prices; uncertainty in the estimation, economic viability, recoverability and processing of mineral resources; risks associated with development of the Olaroz Project; unexpected capital or operating cost increases; uncertainty of meeting anticipated program milestones at the Olaroz Project or the Company's other projects; exceptional or prolonged adverse weather conditions; risks associated with investment in publicly listed companies, such as the Company; risks associated with general economic conditions; the risk that the historical estimates for Borax Argentina's properties that were prepared by Rio Tinto, Borax Argentina and/or their respective consultants (including the size and grade of the resources) are incorrect in any material respect; the inability to efficiently integrate the operations of Borax Argentina with those of Orocobre; as well as those factors disclosed in the Company's Annual Report for the financial year ended 30 June 2018 and Sustainability Report 2018 available on the ASX website and at [www.sedar.com](http://www.sedar.com).

The Company believes that the assumptions and expectations reflected in such forward-looking information are reasonable. Assumptions have been made regarding, among other things: the timely receipt of required approvals and completion of agreements on reasonable terms and conditions; the ability of the Company to obtain financing as and when required and on reasonable terms and conditions; the prices of lithium, potash and borates; market demand for products and the ability of the Company to operate in a safe, efficient and effective manner. Readers are cautioned that the foregoing list is not exhaustive of all factors and assumptions which may have been used. There can be no assurance that forward-looking information will prove to be accurate, as actual results and future events could differ materially from those anticipated in such information. Accordingly, readers should not place undue reliance on forward-looking information. The Company does not undertake to update any forward-looking information, except in accordance with applicable securities laws.