# Orocobre Limited: Olaroz Lithium Facility Operations Update

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Brisbane, Australia (ABN Newswire) - Orocobre Ltd. (ASX:ORE) (TSE:ORL) (OTCMKTS:OROCF) wishes to advise on progress at the Olaroz Lithium Facility.

**Highlights:**

- Production ramp up slower than expected due to equipment limitations and early operational issues

- Production bottlenecks have been sequentially identified and all bar one have been successfully rectified

- Improving production rate through Q3 whilst final modification is completed

- Company reaffirm guidance to meet nameplate monthly run rate of 1,450 tonnes during Q4

- CY2015 production now fully committed

- Strong market growth and lithium price growth

**Operations Update**

**Production update and forecast**

The lithium carbonate plant continues to produce both battery grade and technical grade lithium carbonate to fulfil sample and customer order requirements.

The production ramp up has been slower than anticipated with 26 tonnes of saleable lithium carbonate produced up to the end of April, 44 tonnes produced in May and 100 tonnes expected to be produced in June. An additional 150 tonnes of lithium carbonate inventory produced from the primary circuit is in stock and will be further processed through the purification circuit in due course.

The slower than expected ramp up has been due principally to a number of "bottle necks" caused by both physical/equipment limitations and the development of good operating practices. These "bottlenecks" have been sequentially identified through the plant and the majority have been successfully rectified. The remaining areas are expected to be resolved in the coming 3-4 months.

As would be a normal part of early operations with any new plant, production runs have provided the basis for identification and rectification of limitations. The progress made has been pleasing and as a result we wish to provide guidance on the phased schedule for increasing production output. Production for the coming quarter is forecast to be 1,200 tonnes in total, with the full production rate of 1,450 tonnes per month expected to be achieved in the 4th quarter following modifications to the purification circuit discussed in the section below.

It is also expected that by October 2015, there will be sufficient quantities of concentrated brine to supply the plant at full capacity. Currently there is in excess of 32,000 tonnes of lithium carbonate equivalent in the Olaroz pond system at various stages of concentration, with the overall process recoveries expected to be approximately 75%. This inventory will allow rapid ramp-up of production once the final plant issues have been rectified.

**Plant update**

As advised in the operations update of 29th April 2015, the initial focus had been the establishment of process control parameters and operating procedures to allow production of lithium carbonate within product specifications and once achieved this would allow a gradual transition to commercial production levels. At the time of this announcement in April, the first commercial sales order had been dispatched, process controls had been established and the plant was successfully and consistently producing lithium carbonate of a purity suitable for both industrial and battery industry markets.

Once it was confirmed that the plant was consistently producing lithium carbonate to specification, attention then turned to improving circuit availability and throughput rate, circuit efficiencies and related operating procedures. Concurrent with this, de-bottlenecking of the plant continued in the following areas with the following completed:

- Additional boiler capacity installation to provide the necessary heat profile

- Installation of direct steam injection to reduce crystalisation of salts in pipes and heat exchangers

- Installation of acid washing systems for pipe cleaning throughout the plant

- Rectification of a number of construction defects, typical of any new plant, including re-fibreglassing of reactor vessels and the replacement of brine transfer pumps

The methodical review and rectification of the bottlenecks has resulted in all but one area having been rectified. This area is the purification circuit where efficiencies in the absorption part of the circuit are being affected by operating temperatures being 10 degrees higher than designed. An evaporative cooling tower will be installed on the feed to resolve this issue and bring feed temperatures down to approximately 20 degrees. This will allow the design throughput rate of purification of the primary circuit feed to be achieved, improving on the throughput rates achieved to date of 20-25tpd. The rectification of construction defects and removal of bottlenecks has cost approximately US$5m to date. These additional modifications are expected to cost approximately US$2m and take 3-4 months. Parallel with these modifications the operation will continue to focus on developing operating practices to improve operating efficiencies, circuit availability and production ramp up.

Although not containing components of inherent risk, the Olaroz lithium carbonate facility is a globally unique facility operating at high altitude, which has its own set of challenges.

**Sales Orders**

Following the announcement on 29th April, commercial shipments of lithium carbonate have continued to be dispatched from the Olaroz Lithium Facility to Europe and Japan and there are forward sales orders in the system to customers in the USA and South Korea.

Commercial samples have been dispatched and continue to be dispatched to customers as the final stage of product qualification. As previously advised, the time period for final sample approval, where required, varies from 1 week to 3-6 months depending on the specific customer requirements.

All forecast production for CY2015 has now been fully committed, earlier than our previous guidance of 30 June 2015, and customers are awaiting delivery.

The main customer concern is long term security of quality supply and the Olaroz Lithium facility will fulfil this need.

**Market Conditions**

As previously advised, the supply side of the lithium market continues to tighten due to a combination of existing suppliers effectively being at capacity and strong market demand. Existing suppliers announced market price increases of approximately 10% for 2015 and their recent quarterly reports indicate that these announced price increases have been achieved.

Our market experience is that lithium carbonate prices are continuing to increase from a level of $5,000-$5,500/tonne last year to currently be in excess of US$6,000/tonne.

Plans for new and expanded lithium battery factories have been announced by Tesla, Foxconn, Samsung, LG and BYD. Market demand is being driven by more mobile devices being sold than ever before, underpinned by the growth of emerging markets, increasing momentum in the electric vehicle sector as most brands announce electric models and now the introduction of the solar-lithium battery home energy solution. These new applications for lithium batteries have not yet been quantified for their effect on lithium demand but some research groups are suggesting a potential doubling of market size by 2020.

There are no new entrants on the supply side and no capacity expansions outside China due to come on line until at least 2016. The market growth rate projected by independent consultants is 10% year on year for at least the next few years. Customers currently value security of supply very highly and are focused on the diversification of their supply chain to manage risk.

**Managing Director Comments**

Managing Director, Richard Seville, said, "We are pleased to be dispatching both battery grade and technical grade product to fulfil customer orders and final sample requirements. We also acknowledge that our production ramp up has been slower than anticipated due to a variety of plant operating issues. The systematic identifying of bottlenecks to be rectified will still enable us to achieve the nameplate monthly production rate of 1,450 tonnes within Q4 2015. We have had to invest some capital in both plant rectification and additional boiler capacity, which was critical to allow the plant to reach its potential. As the ramp up program continues, we will undoubtedly learn more about the intricacies of the process as we develop our operating practices and drive toward maximizing plant efficiency.

In regard to the market, the lithium market continues to demonstrate very strong demand growth and market price increases of ~10% this year. The market is forecast to grow at ~10%, prior to including the potentially huge impact of the proposed new battery factories or battery plant expansions proposed by Samsung, LG, BYD, Foxconn and Tesla.

Although we are disappointed with the delays, we are heartened by the recent progress and the strengthening market dynamics. The lithium market is certainly in an exciting phase and we look forward to growing our business in line with this market growth".

To view images, please visit:
http://media.abnnewswire.net/media/en/docs/ASX-ORE-862831.pdf

More images will be uploaded to Orocobre website under "Gallery" at, www.orocobre.com

**About Orocobre Limited:**

Orocobre Ltd. is listed on the Australian Securities Exchange and Toronto Stock Exchange (ASX:ORE) (TSE:ORL) (OTCMKTS:OROCF), and is building a substantial Argentinian-based industrial 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 20 years at the Salar de Olaroz with planned production of 17,500 tonnes per annum of low-cost battery grade lithium carbonate. The full monthly production rate is expected to be reached in the last quarter 2015.

**Contact:**

Orocobre Ltd.
David Hall, Business Development Manager
M: +61-407-845-052
E: dhall@orocobre.com

James Calaway, Chairman
M: + 1-713-818-1457
E: jcalaway@orocobre.com

Orocobre Ltd.
E: mail@orocobre.com
www.orocobre.com.au