

Lake Resources NL: Pre-production at Kachi with Pilot Plant Construction

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Brisbane, Australia - Lithium explorer and developer [Lake Resources NL](#) (ASX:LKE)(FRA:LK1) announced today plans for pre-production in early 2020 of initial lithium products from its flagship Kachi Lithium Brine Project in Argentina, using a pilot plant under construction with delivery to site expected soon after calendar year-end.

The pilot plant, which has been designed by Silicon Valley-backed Lilac Solutions and international engineering company Hatch, will demonstrate Lilac Solutions' groundbreaking direct extraction ion exchange process on brines produced at Kachi.

The first module of the plant has already been completed. Results from lab testing have been incorporated into the pre-feasibility study (PFS) at Kachi, which is currently 75% complete, on time and on budget, and scheduled for release by year-end.

Lake expects to produce a high quality, low impurity product that is likely to attract premium pricing in the current market for lithium, amid rising demand for electric vehicles (EVs) and increasing interest in the project from potential off-takers and project partners. Intermediate products will also be prepared.

Lab testing has shown that lithium concentrations of 30-60,000 mg/L lithium can be produced from brines of ~300 mg/L lithium in a few hours after dewatering, more than 10 times the concentration of conventional processes, together with lower impurities.

This direct extraction process will be a major advance for the lithium brine industry, producing high quality low impurity lithium products, flexible and scalable to suit end user needs.

The pilot plant has been designed in modules to produce concentrate for either lithium hydroxide or lithium carbonate, or intermediate products of lithium sulphate and/or lithium chloride, at approximately 10 tonnes per year, sufficient to supply samples to selected downstream battery plants and cathode plants.

The design is based on more than 6 months (1,000 cycles) of successful lab processing of brines from Kachi which have shown excellent performance over an extended period, with high selectivity and durability.

Significantly, the Lilac technology is environmentally friendly, as the salty water (brine) is reinjected into the aquifer once the lithium has been removed. Traditional evaporation ponds are not required. This offers a potential ethical, sustainable solution for an industry at the forefront of the global clean energy revolution.

The Kachi project ranks amongst the top 10 global lithium brine resources, with a maiden resource estimate of 4.4 million tonnes lithium carbonate equivalent (LCE) (Indicated 1.0 Mt and Inferred 3.4 Mt) within a much larger exploration target (refer ASX announcement 27 November 2018).

A Phase 1 Engineering Study completed in December 2018 showed its potential to cut production costs to the lowest cost quartile globally, with high recoveries (80 to 90%) compared to conventional brine operations in South America with typical lithium recoveries below 50%. The Lilac technology could also potentially slash production times compared to the lengthy nine to 24-month waiting period for standard evaporation processes to produce a suitable concentrate for processing.

Lilac Direct Extraction Process - Benefits

Lilac's unique direct extraction process offers a number of benefits for the Kachi project and the industry more broadly:

- Increases grade to 30-60,000 mg/L lithium from lithium brines of 200-600 mg/L lithium
- Increases recoveries to 80-90% (from 40-50%); doubles recoverable grade
- Reduces lead time to production by at least 12 months
- Produces a premium product for lithium hydroxide or lithium carbonate with low impurities

- Smaller environmental footprint without the need for large evaporation ponds
- Forecast operating cash costs in the lowest quartile, based on the Phase 1 Engineering Study.

To view tables and figures, please visit:
<https://abnnewswire.net/Ink/Q24GN751>

About Lake Resources NL:

[Lake Resources NL](#) (ASX:LKE) is a lithium exploration and development company focused on developing its three lithium brine projects and hard rock project in Argentina, all owned 100%. The leases are in a prime location among the lithium sector's largest players within the Lithium Triangle, where half of the world's lithium is produced. Lake holds one of the largest lithium tenement packages in Argentina (~200,000Ha) secured in 2016 prior to a significant 'rush' by major companies. The large holdings provide the potential to provide consistent security of supply demanded by battery makers and electric vehicle manufacturers.

The Kachi project covers 69,000 ha over a salt lake south of FMC's lithium operation and near Albemarle's Antofalla project in Catamarca Province. Drilling at Kachi has confirmed a large lithium brine bearing basin over 20km long, 15km wide and 400m to 800m deep. Drilling over Kachi (currently 16 drill holes, 3100m) has produced a maiden indicated and inferred resource of 4.4 Mt LCE (Indicated 1.0Mt and Inferred 3.4Mt) within a 8-17 Mt LCE exploration target (refer ASX announcement 27 November 2018).

A direct extraction technique is being tested in partnership with Lilac Solutions, which has shown 80-90% recoveries and lithium brine concentrations in excess of 3000 mg/L lithium and is planned to be trialled on site in tandem with conventional methods as part of a PFS to follow the resource statement. Scope exists to unlock considerable value through partnerships and corporate deals in the near term.

Source:

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