

26 November 2020

## **LAKE'S HIGH PURITY LITHIUM CARBONATE TO PRODUCE FIRST LITHIUM BATTERIES AT NOVONIX**

- First samples of Lake's high 99.97% purity lithium carbonate sent to Novonix in Canada to produce high-performance lithium-ion batteries.
- Novonix (ASX:NVX) provides high technology battery testing equipment to Tier 1 battery makers giving Lake global exposure.
- Hazen continues to produce high purity 5kg-6kg carbonate samples using a simple flowsheet from lithium chloride produced at the Lilac Solutions pilot plant module from Lake's Kachi brines.
- Novonix program will be undertaken over four months with first results anticipated in February.

Clean lithium developer **Lake Resources NL (ASX:LKE; OTC:LLKKF)** is pleased to confirm that Hazen Research Inc (Hazen), has dispatched the first samples of Lake's high purity 99.97% lithium carbonate, produced from Kachi brines, to Novonix Battery Technology Solutions in Nova Scotia, Canada for the production of NMC622-based lithium-ion battery test cells.

Novonix Limited (ASX:NVX; OTCQX:NVNFX) provides high precision battery testing equipment to Tier 1 battery makers including Panasonic, CATL, Samsung, SK Innovation, LG Chem, Bosch, Honda and Dyson. Novonix is preparing to begin the testing of Lake's lithium carbonate with the the preliminary cathode precursor lithiation followed by full pilot scale evaluation.

Using Novonix's pilot cell line, Lake's high purity, responsibly sourced lithium carbonate samples will be used together with commercial battery cathode precursor materials to form a NMC622 cathode that will then be processed into NMC622 lithium-ion batteries for testing. This will enable Lake and its potential partners and customers to make direct and relevant comparisons of Lake's lithium product's performance in familiar battery chemistries.

Novonix anticipates this testing process to take a minimum of four months, with the first results expected approximately two months after the cathode material is produced. Lake will update the market once results become available.

Hazen will continue to produce lithium carbonate, targeting 5kg to 6kg of samples in this round derived from the first 20,000 litres of Kachi brines (refer ASX announcement 20 October 2020). A further 20,000 litres of brine is stored with Lilac whilst additional brines are currently being prepared for transport from site to produce more samples to meet increased demand, given recent successful results (refer same ASX announcement 20 Oct 2020).

High purity lithium carbonate results have been obtained via a simple flowsheet without any anticipated changes to the operating costs previously forecast in Kachi's Pre-Feasibility Study (refer ASX announcement 28 April 2020), which is a great result for the Company and the sector. Low impurities are a key factor in determining battery quality and the pricing and acceptance of lithium products. Lake's high purity carbonate offers the potential for premium prices.

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**Managing Director Steve Promnitz commented:** *"The commencement of the Novonix program is an important milestone for Lake and the timeframe for delivery of first results is on track. We are confident that Novonix's work will clearly demonstrate that lithium carbonate produced from Kachi brines will have the necessary specifications that Tier 1 battery makers require. As well, demand for such a sustainably produced and responsibly sourced product is growing in North America and Europe as electric vehicle makers look to bolster their ESG credentials and the use of gasoline engine vehicles are phased out. Kachi has all the hallmarks to deliver into this new demand at the necessary scale."*

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**Figure 1:** Novonix – Lithium ion batteries and cells; battery testing equipment; slurry mixer

**About Novonix**

Novonix Limited (ASX:NVX, OTC:NVNXXF) is an integrated developer and supplier of high-performance materials, equipment and services for the global lithium-ion battery industry with operations in the USA and Canada and sales in more than 14 countries. Novonix's mission is to support the global deployment of lithium-ion battery technologies for a cleaner energy future.

For more information on Novonix, please visit the website at [www.novonixgroup.com](http://www.novonixgroup.com)

**About Lake Resources NL (ASX:LKE OTC:LLKKF) –**

**Clean high purity lithium using efficient disruptive clean technology**

Lake Resources NL (ASX:LKE, OTC: LLKKF) is a clean lithium developer utilising direct extraction technology for production of sustainable, high purity lithium from its flagship Kachi Project within the Lithium Triangle in Argentina among other projects covering 200,00 ha.

This direct extraction method delivers a solution for two rising demands of electric vehicle batteries – high purity battery materials to avoid performance issues, and more sustainable, responsibly sourced materials.

- 1. Clean-Tech:** Efficient, disruptive, cost-competitive technology using well-known water treatment re-engineered for lithium (not mining). Technology partner, Lilac Solutions Inc, supported by Bill Gates led Breakthrough Energy fund and MIT's The Engine fund.
- 2. High Purity:** 99.97% purity lithium carbonate samples never previously delivered at scale in a cost competitive manner for a premium price (refer ASX announcement 9 January 2020 and 20 October 2020).
- 3. Sustainable /ESG:** Far smaller environmental footprint than conventional methods, that returns virtually all water (brine) to its source without changing its chemistry, avoiding "water politics" in arid environments for a better outcome for local communities.

**4. Prime Location, Large Projects:** Flagship Kachi project in prime location among low cost producers with a large lease holding (70,000 ha) and expandable resource (4.4 Mt LCE) of which only 20% is used for 25 years production at 25,500tpa (JORC Resource: Indicated 1.0Mt, Inferred 3.4Mt, refer ASX announcement 27 November 2018). Pre-feasibility study by tier 1 engineering firm shows large, long-life low-cost operation (refer ASX announcement 28 April 2020).

An innovative direct extraction technique, based on a well-used ion exchange water treatment method, has been tested for over 18 months in partnership with Lilac Solutions, with a pilot plant module in California operating on Kachi brines and has shown 80-90% recoveries. Battery quality lithium carbonate (99.97% purity) has been produced from Kachi brine samples with very low impurities (refer ASX announcement 20 October 2020). The first samples of high purity (99.97% purity) battery quality lithium carbonate is being tested in a NMC622 battery by Novonix. Hazen will produce further samples for downstream supply chain participants and off-takers.

This method of producing high purity lithium can revolutionise and disrupt the battery materials supply industry as it's scalable, low cost, and delivers a consistent product quality.

Lake's other projects include the Olaroz and Cauchari brine projects, located adjacent to major world class brine projects in production or construction, including Orocobre's Olaroz lithium production and adjoins the impending production of Ganfeng Lithium/Lithium Americas' Cauchari project. Lake's Cauchari project has shown lithium brines over 506m interval with high grades averaging 493 mg/L lithium (117-460m) with up to 540 mg/L lithium. These results are similar to lithium brines in adjoining leases and infer an extension and continuity of these brines into Lake's leases (refer ASX announcements 28 May, 12 June 2019).

For more information on Lake, please visit <http://www.lakeresources.com.au/home/>