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HAZEN WELL-ADVANCED PRODUCING BATTERY QUALITY LITHIUM CARBONATE

- Independent assay laboratory, Hazen, expected to produce initial larger samples of battery-quality lithium carbonate within 15-18 days
- Hazen is conducting a thorough analysis to optimize the process for a superior product and is in the bulk precipitation phase at present
- Significant step towards independent verification of quality of Lake's responsibly sourced, high-purity lithium, amid growing demand

Clean lithium developer **Lake Resources NL (ASX:LKE; OTC:LLKKF)** announced today further progress towards the development of sustainable, high-purity lithium, following confirmation that Hazen Research Inc (Hazen), an independent assay laboratory, is well advanced in producing initial larger samples of battery quality lithium carbonate.

Initial samples are anticipated within 15-18 days, with more samples to follow progressively as brines are delivered and processed, according to the Colorado-based company. Hazen is conducting a thorough analysis to optimize the process for a superior product. The outcome will be beneficial as treatment is commenced of the larger samples in the near future.

Hazen is in the bulk precipitation phase, one of the final stages of producing initial larger lithium carbonate samples from the concentrated lithium chloride produced from Lilac's lithium extraction pilot plant module in California, using brines from Lake's Kachi Lithium Brine Project. Photos of some of the equipment used are attached (Figure 1).

The first larger samples will be despatched to Novonix Battery Technology Solutions, a Nova Scotia-based independent testing and development laboratory used by recognised battery makers, to produce NMC622-based lithium-ion battery test cells using Lake's battery quality lithium carbonate.

Under the agreement with Novonix Limited (ASX:NVX), lithium carbonate samples provided by Lake will be used together with commercial battery cathode precursor materials to form an NMC622 cathode and battery (refer ASX announcement 27 August 2020). Novonix is currently developing 'million mile' battery technologies with revolutionary anode and cathode materials.

Lake has attracted growing international interest in its efforts to advance direct extraction technology, including an invitation-only presentation to leading German industry officials, together with the recent presentation to the ASX Small and Mid-Cap Conference 2020.

Lake's Managing Director, Steve Promnitz said: "It's exciting to be this close to delivering battery-quality lithium carbonate from a well-regarded lab as Hazen. Hazen has been diligent in seeking ways to optimize the processing to produce better results."

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“This final product will then be tested in batteries using the cutting-edge battery testing technologies of Novonix. This will demonstrate a de-risked new technology, support the high purity nature of Lake’s product and reinforce the ESG benefits of a more sustainable, responsibly sourced product for the latest batteries.”

“Additionally, we look forward to updating shareholders on the progress we are making advancing our flagship Kachi project. The large scale of the project has created interest and we have a number of converging value-accretive events that will demonstrate just how robust the Kachi project is.”

“The latest announcements from Europe have highlighted the massive increase in demand for battery-quality lithium, and for responsibly sourced supply that Lake can deliver.”

Lilac Solution’s lithium extraction pilot plant module has successfully processed Kachi brine with high recoveries to produce lithium chloride, which is suitable for processing into battery grade lithium carbonate using conventional carbonate processing. Lilac has previously produced 99.9% pure lithium carbonate from this lithium chloride using the conventional lithium carbonate process (refer ASX announcement 9 January 2020).

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Figure 1: Hazen Research – Neutralisation and precipitation of Lake’s lithium product at its lab in Colorado, USA.

About Lake Resources NL (ASX:LKE OTC:LLKKF) - Cleaner high purity lithium using efficient disruptive clean technology

Lake Resources NL (ASX:LKE, OTC: LLKKF) is a clean lithium developer utilising clean, direct extraction technology for the development of sustainable, high purity lithium from its flagship Kachi Project, as well as three other lithium brine projects in Argentina. The projects are in a prime location within the Lithium Triangle, where 40% of the world's lithium is produced at the lowest cost.

This method will enable Lake Resources to be an efficient, responsibly-sourced, environmentally friendly and cost competitive supplier of high-purity lithium, which is readily scalable, and in demand from Tier 1 electric vehicle makers and battery makers.

1. Clean-Tech: Efficient, disruptive clean technology to produce sustainable high purity lithium, with a smaller environmental footprint, in demand by Tier1 EV makers and battery makers. This is a cost-competitive technology provided by our partner in California, Lilac Solutions, who have received the backing of the Bill Gates-led Breakthrough energy fund and MIT's The Engine fund.

2. High Purity: High Purity Lithium Carbonate samples (99.9%) with very low impurities has been produced from lithium brines from Lake's flagship project (refer ASX announcement 9 January 2020). The growth of higher density batteries to drive the latest electric vehicles has significantly increased demand for a high purity product with low impurities, and the process delivers this consistently for a premium price.

3. Prime Location, Large Projects: Lake's projects are located in the Lithium Triangle, in Argentina, the prime location globally for low cost lithium production from large projects. The Kachi project covers 70,000 ha over a salt lake south of Livent's lithium operation with a large indicated and inferred resource of 4.4 Mt LCE (Indicated 1.0Mt, Inferred 3.4Mt) (refer ASX announcement 27 November 2018). A pre-feasibility study (PFS) by a tier 1 engineering firm over Kachi shows a large, long-life low-cost potential operation with competitive production costs at the lower end of the cost curve similar to current lithium brine producers (refer ASX announcement 28 April 2020).

4. Sustainable ESG Benefit: The environmental footprint is far smaller than conventional brine evaporation processes or of hard rock mining. By using a benign water treatment process to produce lithium, Lake avoids any mining and returns virtually all water (brine) to its source without changing its chemistry (apart from lithium removal). This avoids the "water politics" in arid environments and is a better outcome for local communities. Tier 1 electric vehicle makers and Tier 1 battery makers have been seeking more sustainable, responsibly sourced materials in their supply chain which has driven demand for our products.

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 operating on Kachi brines and has shown 80-90% recoveries. Battery quality lithium carbonate (99.9% purity) has been produced from Kachi brine samples with very low impurities (Fe, B, with <0.001 wt%) (refer ASX announcement 9 January 2020). Test results were incorporated into a Pre-Feasibility Study (PFS). The Lilac pilot plant module in California is producing samples for downstream participants. A pilot plant on site is planned to produce larger battery quality lithium samples. Discussions are advanced with downstream entities, as well as financiers, to develop the project.

On 3 July 2020, Lake Resources announced that the first samples of lithium chloride had been successfully produced from Lilac Solution's direct extraction pilot plant module, supporting the scale-up from previously successful lab-scale work. In the coming weeks, lithium carbonate samples will be available for downstream supply chain participants and off-takers. The sector continues to see positive news around demand and issues have been highlighted with a pending shortfall of supply of clean battery quality lithium.

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/>