Lake Resources NL: Kachi PFS to Unlock Lithium Brine Resource - Update

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Brisbane, Australia - One of the Top 10 largest lithium brine resources globally(see Note 3 below) is poised for development, with <u>Lake Resources NL</u> (ASX:LKE) announcing today the commencement of a pre-feasibility study (PFS) at its 100% owned Kachi Lithium Brine Project (see Figure 2 in link below). It is located in a highly prospective area for lithium brine, being situated south of Livent/FMC's lithium production centre, which has been operating for over 20 years, and near Albemarle's Antofalla project in Catamarca Province. The region has been subject to significant corporate transactions recently involving lithium brine assets, implying an acquisition cost of US\$50-\$110 million per 1 million tonnes of LCE resources.

- Pre-feasibility study (PFS) commences at Lake's Kachi Lithium Brine Project following securing of new investor support.

- Kachi project ranked amongst top 10 global lithium brine resources, comprising a large lithium brine-bearing basin over 20km long, 15km wide, and 400m to 800m deep with an Indicated and Inferred Resource of 4.4 Mt LCE (lithium carbonate equivalent) (Indicated 1.0Mt and Inferred 3.4Mt)(see Note 1 below).

- Phase 1 engineering study has shown great potential for operating costs in the lowest cost quartile of US\$2600/t LCE, using a direct extraction technique, which has shown 85-90% recoveries and lithium brine concentrations in excess of 25,000 mg/L lithium(see Note 2 below).

Lake recently announced a maiden resource for Kachi of 4.4 million tonnes lithium carbonate equivalent (LCE) within an exploration target of 8-17 million tonnes LCE grading in the range of 310 mg/L to 210 mg/L lithium (see Note 4 below) (refer ASX announcement 27 November 2018). This occurs within consolidated mining leases enlarged to cover 69,000 hectares and covers almost the entire salt lake. This places the Kachi resource amongst the top 10 lithium brine resources globally(see Note 3 below), at a time when there is an increasing demand for new lithium supply sources and constrained production from major producers.

Clarification Statement: An Exploration Target is not a Mineral Resource. The potential quantity and grade of an Exploration Target is conceptual in nature. A Mineral Resource has been identified in the centre of the Exploration Target, but there has been insufficient exploration to estimate any extension to the Mineral Resource and it is uncertain if further exploration will result in the estimation of an additional Mineral Resource. The Company had previously announced the Exploration Target for the Kachi Lithium Brine Project on 27 November 2018 which had included the Competent Person statement. However the unchanged Exploration Target included in the ASX announcement released on 3 April 2019 titled "Kachi PFS to unlock Top 10 Global Lithium Brine Resource" did not include the Competent Person statement, now included in this update.

In the coming weeks, an international engineering company will be announced to be working with Lake at Kachi on the PFS. This study will examine the project's technical and economic viability, including both conventional processing and direct extraction methods, project engineering design, product specifications, optimisation of recovery, and operating and capital costs. It is expected that there will be significant cost reductions (projected to be within the lowest quartile cash costs) and superior recoveries for direct extraction compared to evaporation ponds. As part of the project development, an on-site pilot plant is being planned to further assess the ion exchange technology developed by Lilac Solutions (see Note 2 below) (refer ASX announcement 10 December 2018).

Lake is currently in discussions with a number of parties with respect to production development funding and partnership at its Kachi project that would assist with financing the feasibility study that is likely to follow on from the PFS. The Company has sufficient funds from Amvest for the PFS.

Lake's Managing Director Steve Promnitz said: "Today's announcement is a significant milestone for Lake and for the Kachi project, the most advanced of Lake's four wholly owned lithium projects in Argentina. The Kachi project has the potential to become a globally significant lithium brine resource and a major lithium producer.

"Discussions will soon be completed with various technical providers of internationally acceptable PFS

studies, so that the Company can demonstrate how Kachi can be taken into production using new direct extraction methods at a competitive cost. We are keenly aware of the opportunity at Kachi and are determined to advance its development into production, together with our Olaroz-Cauchari projects. Kachi is one of the largest wholly owned lithium brine basins in the 'Lithium Triangle', responsible for half the world's lithium output and at the lowest-cost."

Summary

Lake Resources' 100%-owned Kachi Lithium Brine Project in Catamarca province, NW Argentina, covers a consolidated package of 36 mining leases recently expanded to 69,000 hectares (170,000 acres), centred around a previously undrilled salt lake within a large lithium brine-bearing basin. Kachi is one of the few salt lakes in Argentina with substantial identified lithium brines fully controlled by a single owner, Lake.

The Kachi project's maiden JORC Mineral Resource estimate released in late November 2018 is 4.4 million tonnes of contained Lithium Carbonate Equivalent (LCE) in Inferred and Indicated Categories extending to 400m below ground level in porous permeable sediments. This contains 1 Mt LCE as Indicated resources, and 3.4 Mt of LCE as Inferred resources, with a resource depth of 400m for both areas (see Table 1) at an average grade of 211 mg/L lithium and Mg/Li ratio of 4.7. In total, this comprises 1,092,500 tonnes of lithium metal (4.4 million tonnes of lithium carbonate), and 30 million tonnes of potassium chloride (see Note 1 below). This is within the top 10 lithium brine projects globally and a similar size to major lithium brine producers in Argentina and Chile. Brine-bearing sediments remain open at depth and laterally, with the opportunity for resource expansion through additional deeper drilling and extending the exploration footprint.

The Phase 1 engineering study completed with technology partner Lilac Solutions showed the potential for lithium production costs to be US\$2600/tonne (+/-30%), which is in the lowest quartile of the cash cost curve, using Lilac's direct extraction process on the Kachi brines(see Note 2 below). Lilac's extraction technology also offers the potential for a reduced environmental impact due to the removal of evaporation ponds, helping preserve an aqueous resource in an arid environment.

High lithium recoveries of 85-90% were confirmed from multiple brine samples, with lithium concentrations greater than 25,000 mg/L produced from ~300 mg/L lithium brine. An on-site pilot plant is under discussion for 2019. The pre-feasibility study (PFS) is a precursor to full-scale commercial project offering rapid, low-cost production with low environmental impact. The planned approach is to produce a concentrate of purified lithium brine on site and then convert to lithium carbonate at a location with more established infrastructure and workforce. Most reagents are easily sourced locally, except for proprietary materials.

Footnotes:

(*1): Kachi Mineral Resource Statement in ASX market release titled "Large Maiden 4.4mt LCE Resource Estimate for Kachi Project" on 27 November 2018.

(*2): Phase 1 Engineering Study in ASX market release titled "Lilac Extraction Process Shows Potential For High Lithium Recoveries At Lowest Quartile Costs At Kachi" on 10 December 2018.

(*3): Kachi Lithium deposit in "Resource Bubble Chart of Lithium Brine Development Projects" in ASX market release titled "Sal de Vida Update" in ASX market release by <u>Galaxy Resources Ltd.</u> (ASX:GXY) on 31 December 2018 and included in <u>Lake Resources NL</u> ASX market release on 31 January 2019.

(*4): Kachi Exploration Target in ASX market release titled "Large Maiden 4.4mt LCE Resource Estimate for Kachi Project" on 27 November 2018.

To view figures, please visit: http://abnnewswire.net/Ink/VWXP82N4

About Lake Resources NL:

<u>Lake Resources NL</u> (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:

Lake Resources NL

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