

September 28, 2023

Lake Resources Update to September Investor Update Presentation

The webinar slides released by the Company this morning have been updated to remove the lithium data on slide 5 and the reference to recovery rates on slide 10, pending ongoing finalisation of the results of the Saltworks testing. Investors should not rely on this data until the Company releases the full test results accompanied with the relevant JORC-compliant disclosure.

As foreshadowed in the Company's announcement on September 26, Lake expects further JORC updates prior to publishing the Phase 1 DFS results.

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

Lake Resources NL (ASX:LKE, OTC: LLKKF) is a responsible lithium developer utilising state-of-the-art ion exchange extraction technology for production of sustainable, high purity lithium from its flagship Kachi Project in Catamarca Province within the Lithium Triangle in Argentina. Lake also has three additional early-stage projects in this region.

This ion exchange extraction technology delivers a solution for two rising demands – high purity battery materials to avoid performance issues, and more sustainable, responsibly sourced materials with low carbon footprint and significant ESG benefits.

Forward Looking Statements:

Certain statements contained in this announcement, including information as to the future financial performance of the projects, are forward-looking statements. Such forward-looking statements are necessarily based upon a number of estimates and assumptions that, while considered reasonable by Lake Resources N.L. are inherently subject to significant technical, business, economic, competitive, political and social uncertainties and contingencies; involve known and unknown risks and uncertainties and other factors that could cause actual events or results to differ materially from estimated or anticipated events or results, expressed or implied, reflected in such forward-looking statements; and may include, among other things, statements regarding targets, estimates and assumptions in respect of production and prices, operating costs and results, capital expenditures,

reserves and resources and anticipated flow rates, and are or may be based on assumptions and estimates related to future technical, economic, market, political, social and other conditions and affected by the risk of further changes in government regulations, policies or legislation and that further funding may be required, but unavailable, for the ongoing development of Lake's projects. Lake Resources N.L. disclaims any intent or obligation to update any forward-looking statements, whether as a result of new information, future events or results or otherwise. The words "believe", "expect", "anticipate", "indicate", "contemplate", "target", "plan", "intends", "continue", "budget", "estimate", "may", "will", "schedule" and similar expressions identify forward-looking statements. All forward-looking statements made in this announcement are qualified by the foregoing cautionary statements. Investors are cautioned that forward-looking statements are not guarantees of future performance and accordingly investors are cautioned not to put undue reliance on forward-looking statements due to the inherent uncertainty therein. Lake does not undertake to update any forward-looking information, except in accordance with applicable securities laws.

Investor Webcast

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September 28, 2023

General Statement and Cautionary Statement

This presentation has been prepared by Lake Resources N.L (Lake) for information purposes and meetings with sophisticated and professional investors, institutional investors and brokers and not any particular party. The information in this presentation is based upon public information and internally developed data and reflects prevailing conditions and views as of this date, all of which are accordingly subject to change. The information contained in this presentation is of general nature and is not intended to address the circumstances of any particular individual or entity. There is no guarantee that the information is accurate as of the date it is received or that it will continue to be accurate in the future. No warranties or representations can be made as to the origin, validity, accuracy, completeness, currency or reliability of the information. No one should act upon such information without appropriate professional advice after a thorough examination of the particular situation. Lake Resources NL accepts no responsibility or liability to any party in connection with this information or views and Lake disclaims and excludes all liability (to the extent permitted by law) for losses, claims, damages, demands, costs and expenses of whatever nature arising in any way out of or in connection with the information, its accuracy, completeness or by reason of reliance by any person on any of it. The information regarding projects described in this presentation are based on exploration targets, apart from the Kachi project's resource statement. The potential quantity and grade of an exploration target is conceptual in nature, with insufficient exploration to determine a mineral resource and there is no certainty that further exploration work will result in the determination of mineral resources or that potentially economic quantities of lithium will be discovered. Some leases are located within and around the Orocobre, Orocobre/Advantage Lithium and Ganfeng/Lithium Americas projects and although data is limited within the properties, the leases may cover potential extensions to the Cauchari/Olaroz projects with potential extensions to aquifers, although this provides no assurance that any resource will be identified on the Lake leases. The lithium pegmatite leases occur adjacent to past producers of spodumene but no potential extension to any mineralisation can be assured.

Forward Looking Statements

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Compliance Statement

The information contained in this presentation relating to financial forecasts, production targets, exploration results, Measured, Indicated and Inferred resource estimates, project execution, infrastructure and testing work, has been derived from the information in Lake's JORC update announced on ASX on 15 June 2023. Lake Resources N.L. confirms that it is not aware of any information that materially affects the information included in Lake's JORC update announced on ASX on 15 June 2023 and all material assumptions contained in that announcement continue to apply and have not materially changed. On this basis, Lake confirms that the Competent Person's findings in Lake's JORC update announced on ASX on 15 June 2023 have not changed nor been modified in any material respects since that announcement.

Progress towards DFS

On Today's Webcast:



David Dickson
CEO



Jonathan Nielsen
Project Technical
Director



Scott Munro
SVP, Technology,
Strategy and Risk

- Lithium Carbonate
- DLE for Kachi
- Update on DFS/EIA for Phase 1 of Kachi Project
- Next Steps
- Answers to Investor Questions

Saltworks Report (Lithium Chloride to Lithium Carbonate):

- Key milestone for DFS preparation
 - Process unit operations tested
 - Data collected for the commercial plant design verification
- Major de-risking milestone for Kachi Project
 - Processed 120,000 liters of Kachi lithium chloride eluate into battery grade lithium carbonate
 - Complete test program included:
 - Bench scale validation testing
 - 1,000-liter Pilot Plant testing
 - 10,000-liter Demo Plant testing
- Kachi Lithium Carbonate product available for qualification / validation with offtakers

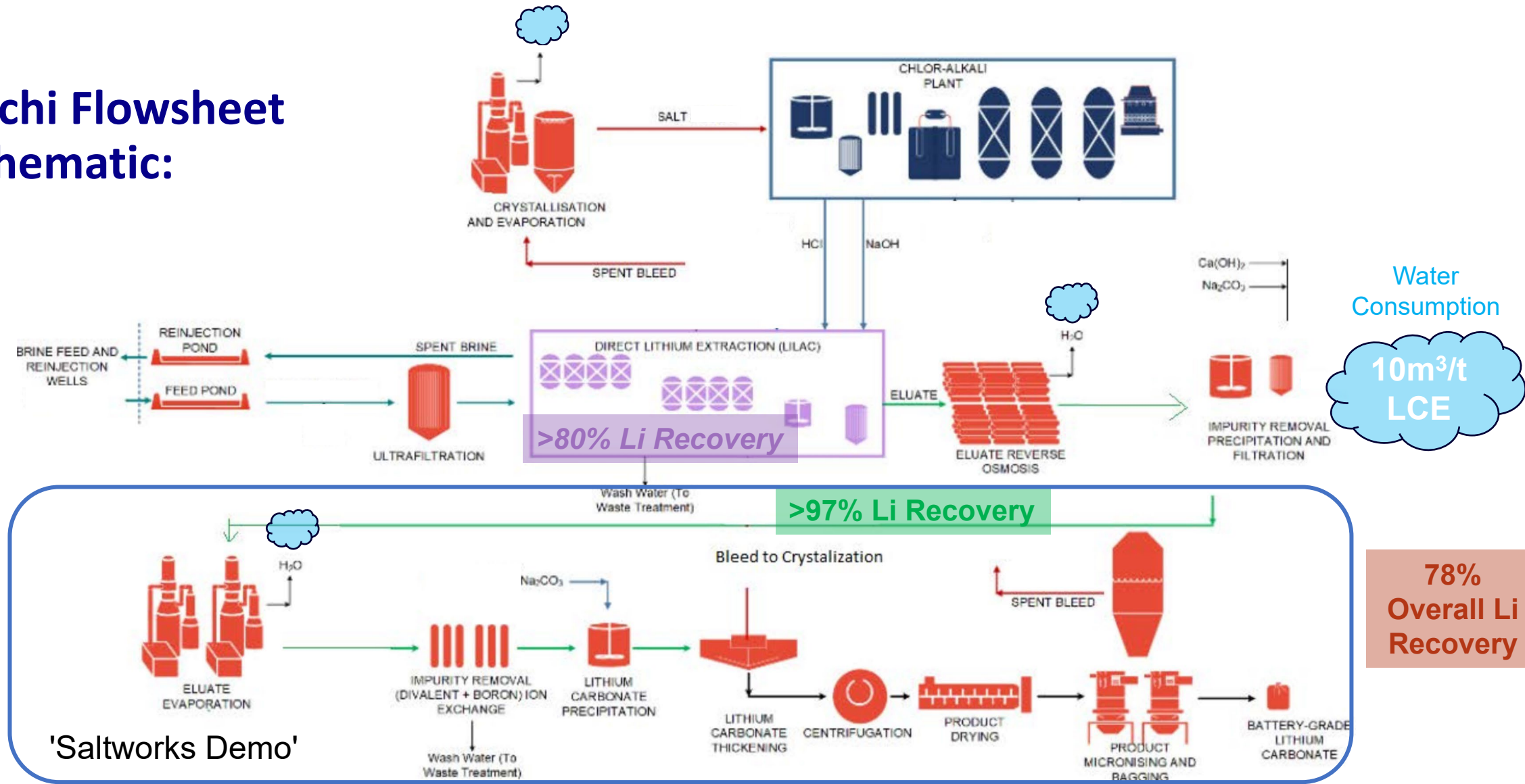
This is a significant achievement as one of the largest successful Brine / DLE / Carbonation test programs

Lithium Carbonate Product:



Proven Process at Kachi

Kachi Flowsheet Schematic:



Proofpoints:

- Why ion exchange DLE technology for Kachi?
 - Good kinetics at ambient brine temperature
 - Minimal water consumption
 - High eluate lithium concentration
- What is the significance of the Kachi Demo Plant?
 - Confidence through 4 million liters of brine processed / 200,000 liters of eluate produced for testing
 - De-risking and data gathering
 - Continuous operation of DLE technology on brine from multiple wells
 - Optimization for commercial design
 - Production of eluate for downstream testing and vendor process guarantee test work

You can only perform this level of testing with on-site development. The Lilac DLE technology has been field proven for Kachi brine.

Focus of the last 30 days:

Process Design – fixed and incorporated in DFS design

Power Design – nearing completion of DFS level studies and pricing validation

Finalizing modifying factor input – For use by hydrogeology teams in modelling

Equipment list completion – Market engagement

Capex/Opex estimates – Progressive compilation commenced

EIA deliverables – Received hydrogeology and process design inputs

All activities are progressing on schedule

Strategically delivering on Kachi

- Working with strategic advisors on project financing
- Meeting with local communities in Catamarca monthly to provide project updates
- Discussions with US, European and Argentine regulators regarding strengthening the lithium supply chain
- Ongoing discussions with SK On and WMC

Process design model complete

Finalizing power design

Kachi Demo plant testing near completion

On target for completion of Phase 1 DFS in December 2023

Topics

- Reinjection update
- Engagement with Catamarca
- Status of other projects
- Demo plant production
- What is the volume of acid consumed, how much excess acid is consumed, and what is the volume of sodium hydroxide consumed to balance the pH?
- What volume of water is consumed for the wash cycle? Is this water recycled? Is the water pumped back into the salar?
- Is the brine/wastewater treated prior to reinjection?



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Thank you!