

# Noosa Mining Conference

LAKE  
RESOURCES

16 November 2023



# Disclaimer

## General Statement and Cautionary Statement

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## Forward Looking Statements

Certain statements contained in this presentation, 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.

## 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.

## OUR VISION

To become a growing contributor to the energy transition by producing high purity lithium, operating sustainably and improving lives

### Capital Structure and Financials

<b>A\$256M</b> Market Capitalization (30 Sep 2023)	<b>A\$0.157 - A\$1.405</b> 52 Week Range	<b>1,422,444,707</b> Shares
<b>A\$60.2M</b> Cash (30 Sep 2023)	<b>Debt</b> Nil	

### Key Projects

Kachi	Lake 80% / Lilac 20% <sup>1</sup>	Lithium Carbonate	Flagship Project
Olaroz	Lake 100%	Lithium	
Cauchari West	Lake 100%	Lithium	
JAMA	Lake 100%	Lithium	

Notes:

1. Lilac Solutions Inc., our technology partner on Kachi, is entitled to earn up 25% interest in the Kachi project, contingent on the achievement of agreed project milestones

# Lake Resources Leadership Team



Experienced, well-credentialed and highly motivated management team ready to deliver on Lake’s new strategy and accelerate the Company’s next growth phase



David Dickson, Managing Director / CEO

Core Functions				Support Functions			
<b>Scott Munro</b> SVP, Technology, Strategy and Risk	<b>Sean Miller</b> SVP, Field Development and Evaluation	<b>Amalia Saenz</b> VP, Argentina Corporate Affairs	<b>Peter Neilsen</b> Chief Financial Officer	<b>Karen Greene</b> SVP, Investor Relations and Communications	<b>Mark Anning</b> Head of Legal, Australia and Company Secretary	<b>John Freeman</b> Chief Legal Officer and General Counsel	<b>Gentry Brann</b> Chief People and Administration Officer

Executive experience acquired across technical, financial and project execution





# Kachi Project





# Argentina's Significant Lithium Assets

**Argentina is an attractive location for lithium investment on a global scale**, not only due to its vast lithium resource base, but also given the supportive regulatory and legal environment. Lake is well positioned to optimize its lithium assets, resources and relationships in Argentina

## Kachi – Lake's Flagship Project

- Located in Catamarca region, within the Lithium Triangle which holds ~56% of the world's lithium reserves<sup>1</sup>
- Government is committed to speedily developing the country's lithium resources, with investments in Argentina's lithium sector
- Strong relationship with the provincial government of Catamarca

Notes:

1. US Geological Survey (USGS)



# Kachi Fact Sheet

<b>Location</b>	Catamarca Province, Argentina
<b>Project Stage</b>	Completion of Phase 1 Definitive Feasibility Study (DFS) targeted for December 2023
<b>Products</b>	Battery Grade Lithium Carbonate
<b>Measured &amp; Indicated Resources<sup>2</sup></b>	2.9 million tonnes Lithium Carbonate Equivalent (LCE)
<b>Inferred Resources<sup>2</sup></b>	5.2 million tonnes LCE
<b>Project Execution Approach<sup>3</sup></b>	50,000 tonnes per annum target plant capacity <ul style="list-style-type: none"><li>• Phase 1 – 25,000 target plant capacity</li><li>• Phase 2 – Additional 25,000 target plant capacity</li></ul>
<b>Non-Binding Offtake Agreements</b>	100% of Lithium Carbonate production
<b>Mine Life<sup>1</sup></b>	25 years

Notes:

1. Not DFS estimates. Mine life for the reserve will be confirmed with the DFS; refer to 19 June 2023 ASX announcement
2. See JORC release on the 15<sup>th</sup> of June 2023; please refer to Appendix A for additional information.
3. These figures refer to target plant capacity only and are not production targets, nor predictions of what the plant will produce. Further information will be available upon completion of the Phase 1 DFS.

## Bringing lessons learned from experienced team:

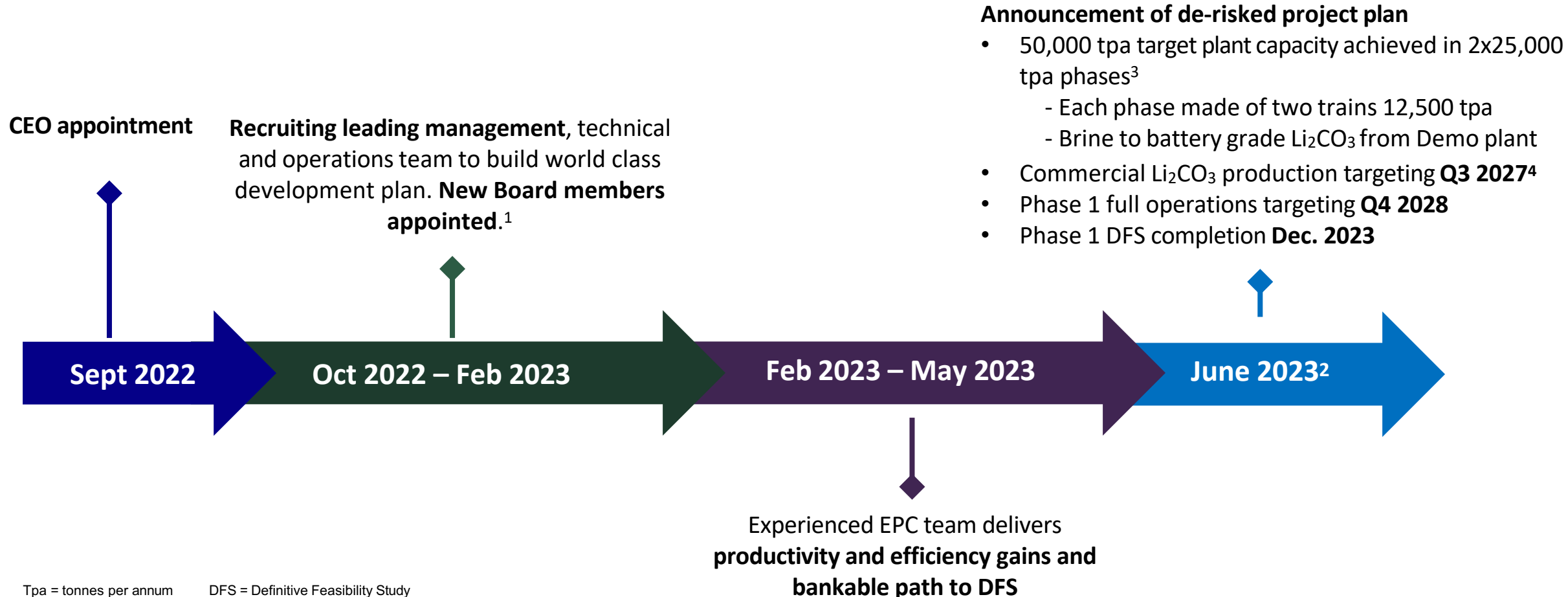
- Using ion exchange DLE technology to optimize lithium extraction results from Kachi brine
  - Higher lithium recovery: DLE has shown average recovery rates of 80%+ compared with 40-60% for traditional methods (hard rock, evaporation ponds)
  - Less impact on environment: lower water usage, lower land usage, less waste volume
- “Mining and Refining” – from brine to battery grade lithium carbonate
  - Proven, repeatable results of high purity, high quality lithium carbonate
- Experience in developing large capital projects in remote areas

**Technical capability from from oil and gas sector driving efficiencies at Kachi**



# A year of progress, preparing Kachi for project execution

*Clear parallels between DLE and oil & gas projects in developing Kachi*



Tpa = tonnes per annum      DFS = Definitive Feasibility Study

1. Refer to ASX announcement dated 12 January 2023

2. Refer to ASX announcement dated 19 June 2023

3. 50,000 tpa target plant capacity made up of Phase 1 (25,000 tpa) + Phase 2 (25,000 tpa)

4. When first train (12,500 tpa) in Phase 1 commences operation

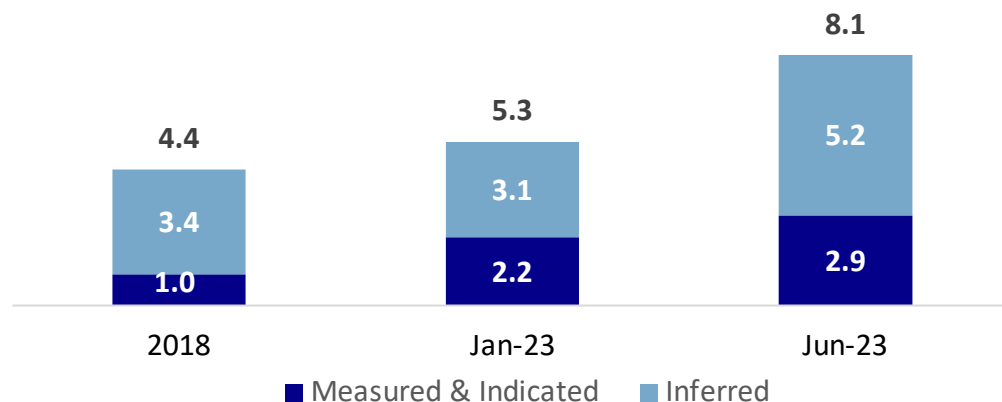
# Substantial Resources With Embedded Upside

**Kachi is a large-scale lithium carbonate project with significant LCE resource and further expansion potential**

## Large-Scale Lithium Carbonate Project

	Li (Kt)	LCE (Kt)	Grade (mg / l)
Measured	416	2,211	210
Indicated	135	716	174
M&I	550	2,926	200
Inferred	974	5,183	199

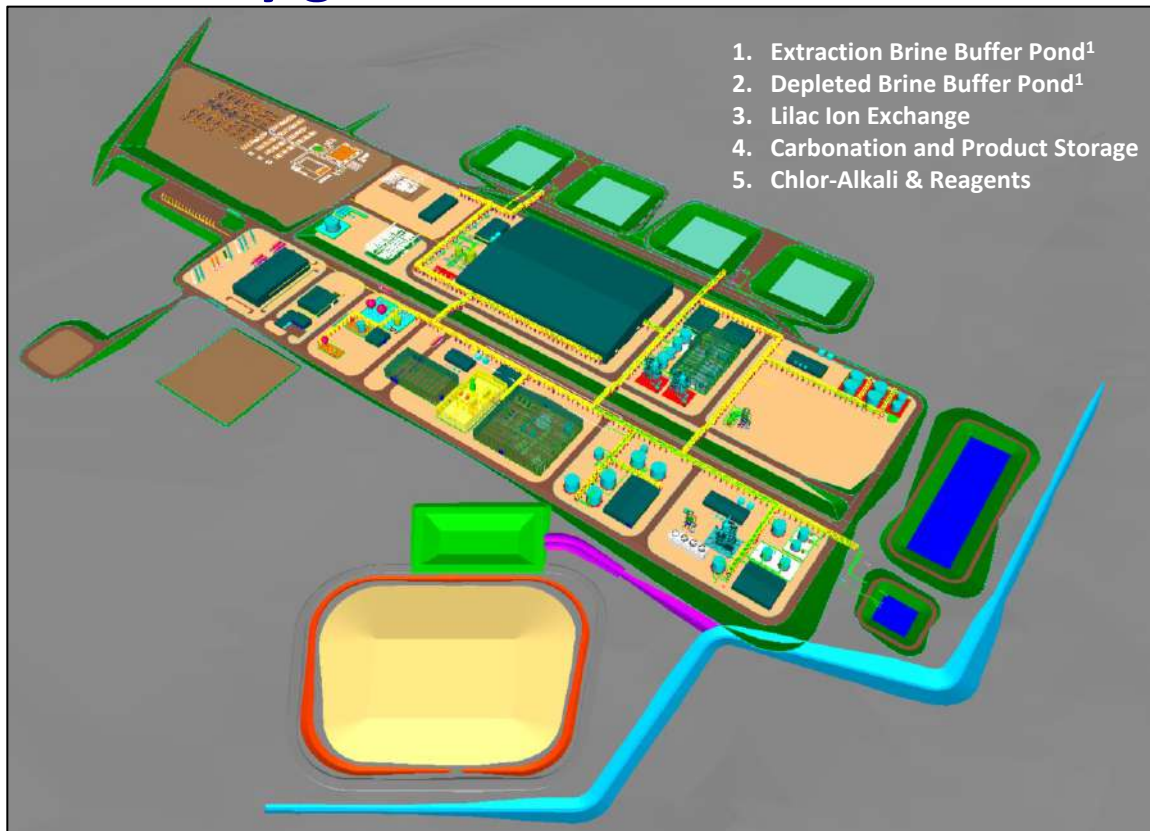
## Resources (in Million Tonnes LCE)



## Substantial Expansion and Exploration Potential

- Measured and Indicated (M&I) resources have increased from 2.2Mt in Jan-23 to 2.9Mt in Jun-23 of LCE defined, to a depth of 400m over 106km
- Surrounding the M&I resources are Inferred Resources of 5.2Mt LCE defined over 161km
  - The resource remains open to depths over 600m below ground surface (bgs) and open laterally, where drilling is underway to better define the resource extent
- The footprint of the Inferred Resource has expanded substantially north and south from recent characterization activities and transient electromagnetic geophysics suggests the lithium brine may extend significantly further indicating substantial additional exploration potential
- Current and future drilling is targeting additional step out holes and defining the deeper resource beyond 400m bgs

## Process flow sheet proven from brine to battery grade lithium carbonate



## Major Milestones Achieved in Kachi Demonstration Plant using Lilac DLE Technology

DLE demonstration plant continuously operational for more than 2,500 hours with 90% uptime

Highly selective process with consistent results on sample testing

> 90% impurity removal<sup>3</sup>

> 80%<sup>2</sup> lithium recovery<sup>3</sup>

Produced 200,000 liters of eluate containing more than 4,100 kg of LCE

Lithium Carbonate exceeds battery grade requirements > 99.8% purity<sup>3</sup>

Initial offtake samples shipped

<sup>1</sup> Buffer pond size for our target 50Ktpa plant capacity is more than 100x smaller than evaporation ponds required for same output. <sup>2</sup> For DLE recovery only; >76% for total plant.

<sup>3</sup> Refer to ASX Announcements on 3 April 2023, 19 June 2023 and 26 September 2023



- 30-day pumping test complete; reviewing data to incorporate learnings into future well designs
- Process design plant finalized
- Ongoing conversations with Export Credit Agencies in the UK and Canada, bankers and offtake partners
- Working with strategic advisors on:
  - Near term Capital requirements
  - Project financing structure
- Resource and reserve for Phase 1 DFS are undergoing review processes; we will release updates to the market in the coming weeks as required, as a result of that review
- Finalize power design and selection of Independent Power Producer (IPP)

***On target for completion of Phase 1 DFS in December 2023***

# Appendix A





**Table 1: Updated resource estimate of contained lithium**

Measured June 2023								
Unit	Sediment Volume m <sup>3</sup>	Specific Yield %	Brine volume m <sup>3</sup>	Litres	Li mg/l	Li grams	Li Tonnes	Tonnes LCE
A	14,620,000,000	0.07	1,073,675,256	1,073,675,256,000	200	214,735,051,200	214,735	1,142,390
B	4,594,900,000	0.08	358,054,366	358,054,366,070	222	79,488,069,268	79,488	422,877
C	8,487,400,000	0.06	543,960,861	543,960,860,960	223	121,303,271,994	121,303	645,333
Total	27,702,300,000		1,975,690,483	1,975,690,483,030	210	415,526,392,462	415,526	2,210,600
Indicated June 2023								
Unit	Sediment Volume m <sup>3</sup>	Specific Yield %	Brine volume m <sup>3</sup>	Litres	Li mg/l	Li grams	Li Tonnes	Tonnes LCE
A	5,559,400,000	0.07	401,416,477	401,416,477,000	172	69,043,634,044	69,044	367,312
B	1,968,900,000	0.07	144,809,839	144,809,838,540	176	25,486,531,583	25,487	135,588
C	3,528,700,000	0.06	225,883,379	225,883,378,840	177	39,981,358,055	39,981	212,701
Total	11,057,000,000		772,109,694	772,109,694,380	174	134,511,523,682	134,512	715,601
Combined Measured + Indicated								
	38,759,300,000	-	2,747,800,177	2,747,800,177,410		550,037,916,143	550,038	2,926,202
Inferred June 2023								
Unit	Sediment Volume m <sup>3</sup>	Specific Yield %	Brine volume m <sup>3</sup>	Litres	Li mg/l	Li grams	Li Tonnes	Tonnes LCE
A	35,100,000,000	0.08	2,695,188,600	2,695,188,600,000	188	506,695,456,800	506,695	2,695,620
B	8,982,700,000	0.07	661,907,317	661,907,316,630	201	133,043,370,643	133,043	707,791
C	20,794,000,000	0.07	1,534,617,994	1,534,617,994,000	218	334,546,722,692	334,547	1,779,789
Total	64,876,700,000		4,891,713,911	4,891,713,910,630	199	974,285,550,135	974,286	5,183,199

Note: This table has been directly extracted from the JORC update announced 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.

- JORC definitions were followed for mineral resources.
- The Competent Person for this Mineral Resource estimate is Andrew Fulton, MAIG.
- No internal cut-off concentration has been applied to the resource estimate. The resource is reported at a zero mg/l cut-off, given the consistent grade of the deposit.
- Numbers may not add due to rounding.
- Specific Yield (Sy) = Drainable Porosity
- Lithium is converted to lithium carbonate (Li<sub>2</sub>CO<sub>3</sub>) with a conversion factor of 5.32.



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An aerial photograph of a mining site in a desert environment. In the foreground, there is a cluster of white modular buildings with blue roofs, arranged in rows. To the right of these buildings is a parking lot filled with several white vehicles. A dirt road curves through the site. In the background, a large, deep open-pit mine is visible, surrounded by a low wall. Beyond the mine, a vast, flat desert landscape stretches out to a range of mountains under a clear blue sky.

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