

# Investor Webcast

LAKE  
RESOURCES

January 29, 2024



## General Statement and Cautionary Statement

This presentation has been prepared by Lake Resources N.L. (Lake) for information purposes 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

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 Kachi Project Phase One Definitive Feasibility Study Results and Lake's Ore Reserve Statement both announced on ASX on 19 December 2023 and mineral resource update announced on ASX on 22 November 2023. Lake confirms that it is not aware of any information that materially affects the information included in Lake's Kachi Project Phase One Definitive Feasibility Study Results and Lake's Ore Reserve Statement both announced on ASX on 19 December 2023 and mineral resource update announced on ASX on 22 November 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 Kachi Project Phase One Definitive Feasibility Study Results and Lake's Ore Reserve Statement both announced on ASX on 19 December 2023 and, in respect of Lake's mineral resource, in the mineral resource update announced on ASX on 22 November 2023, have not changed nor been modified in any material respects since those announcements.

# A Closer Look at Kachi Project

On Today's Webcast:



David Dickson  
CEO, Lake Resources



David Snyder, Founder and CEO,  
Lilac Solutions



Don Miller  
CFO, Lake Resources

- Lilac: Company Update and Technology Insights
- Lithium market outlook
- High level review of Kachi Project Phase One Definitive Feasibility Study ("DFS")





## Scaling Lithium Supply for the Electric Era





## LILAC SOLUTIONS IS THE LEADING DLE PARTNER FOR ANY BRINE, ANYWHERE

**2016**

Founded

**250+**

Employees across  
8 offices

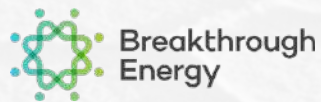
**\$250M+**

Capital raised  
to date

### Lilac's Technology unlocks IX superior performance

- **Increased Reserves:** Sustained high recovery in salar, O&G, and geothermal.
- **Resource Flexibility:** Lilac's IX operates in ultra-low grades.
- **Reduced Impact:** Lowest freshwater and land usage.
- **Flowsheet Agnostic:** Ability to support variety of reagents & products.

### World Class Investors focused on Scale



# EVAPORATION PONDS HAVE LOST THEIR SOCIAL LICENSE

## SUBPAR YIELDS

30-50% recovery rates translate to lowered production & resource recovery

## LAND IMPACTS & CONSTRAINTS

Requires '000s ha of surface disturbance, >99% more than DLE

## FRESH WATER SUBSIDENCE

Ponds drain the aquifer which causes subsidence of fresh-water layer

## PRODUCT QUALITY CONCERNS

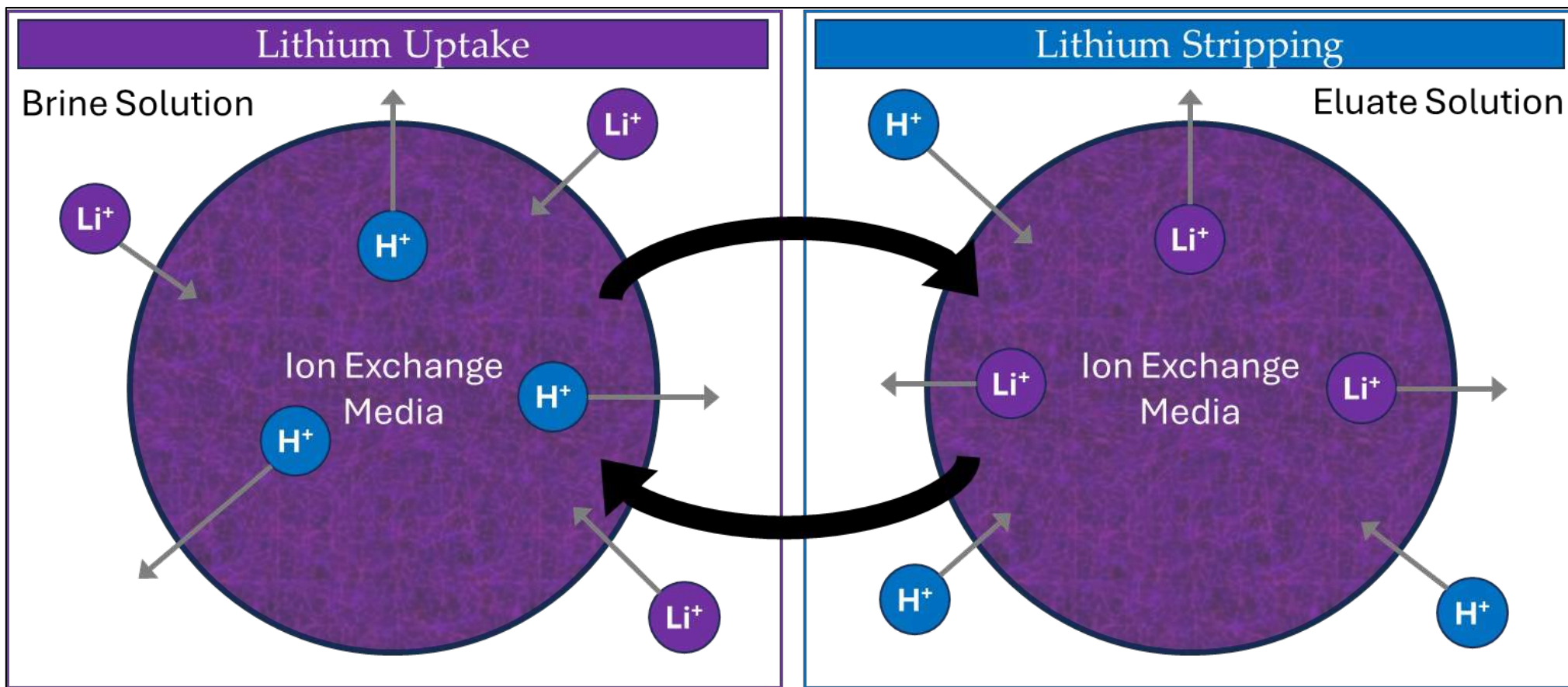
Impact of weather and general exposure risks offtaker specifications

## DEVELOPMENT TIMELINES

Permitting challenges translate to 10+ year review timelines



## ION EXCHANGE HAS A STRONG HERITAGE, BUT MATERIAL DEGRADATION HURT ECONOMICS





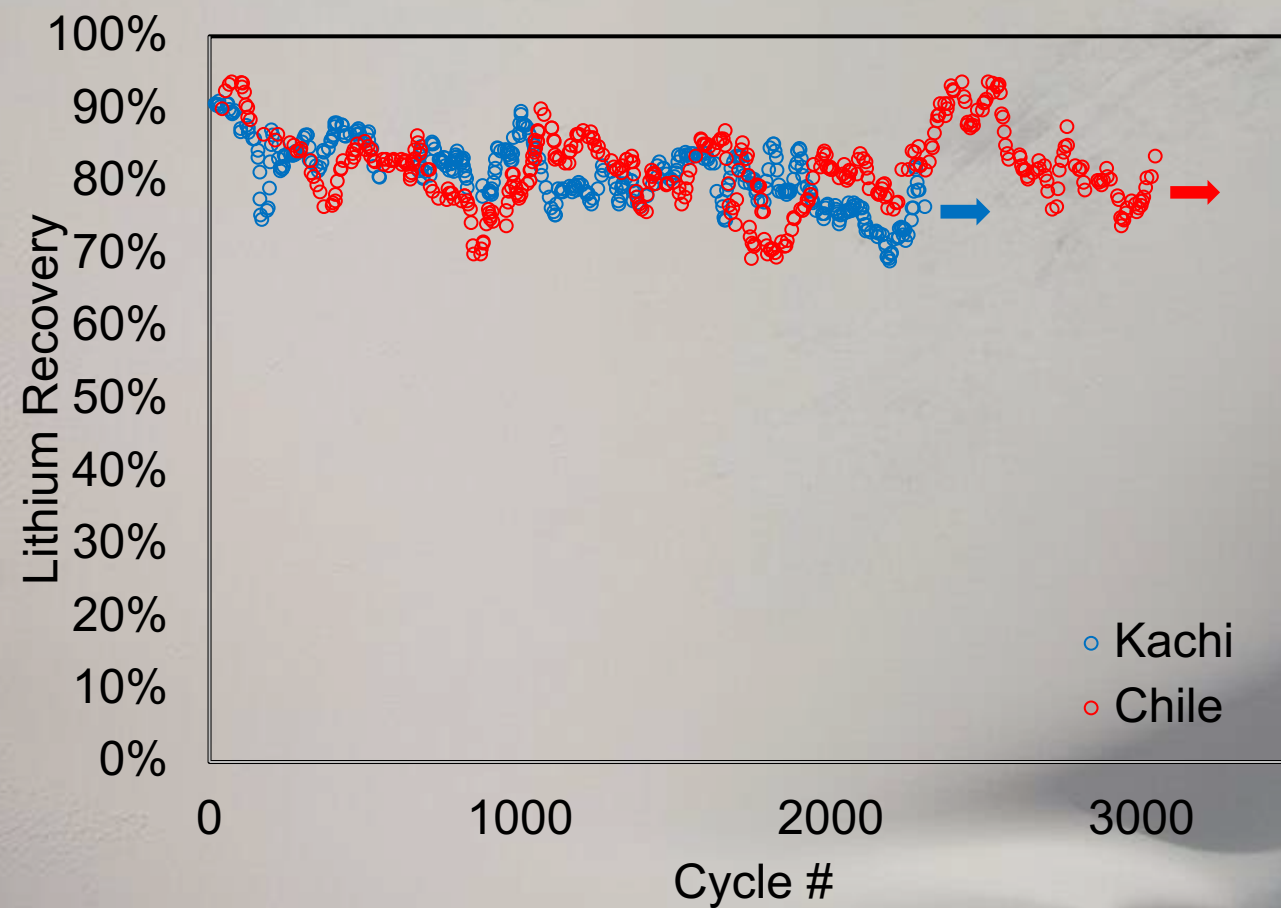
# LILAC IX IS THE COMMERCIALLY VIABLE EXTRACTION TECHNOLOGY

Comparison of Lithium “Extraction” Technologies

	Water Footprint	Land Footprint	Recovery at Commercial Conditions	Impurity Rejection	Product Flexibility	Resource Flexibility
Lilac IX						
Alumina Absorbents						
Solvent Extraction	ND	ND				
Phosphate Precipitation						
Solar Evaporation						
Membranes						



## LILAC'S CORE INNOVATION UNLOCKS IX ADVANTAGES





## LILAC'S OPERATIONAL EXPERIENCE HAS IMPROVED DESIGN WHILE DERISKING COMMERCIAL SCALE-UP

### LAB TRIALS

Led to  
fundamental IX  
breakthroughs

**2016**

### MINI PILOTS (50+)

Solved durability  
concerns and  
flowsheet design

**2018**

### FIELD PILOTS (2)

Grew operational  
expertise

**2019+**

### DEMO PLANTS (2)

De-risked  
commercial scale-  
up

**2023+**

### COMMERCIAL

Multiple projects  
in pre-FID

**est 2025**



# LILAC'S KACHI DEMONSTRATION PLANT MINIMIZED COMPLIANCE RISKS and VALIDATED PRODUCT QUALITY



3

Independent Engineering  
Reports Validating  
Performance at Scale

>5.2

Million liters of brine  
processed

93%

Uptime

1 : 3

IX Reactor Size

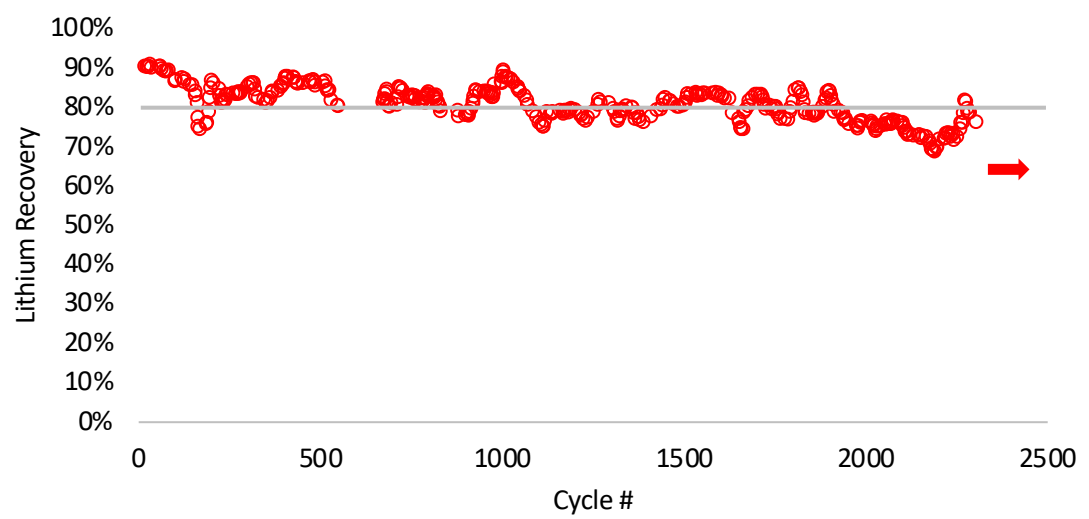
>1.3

Tonnes of battery grade  
lithium carbonate  
produced

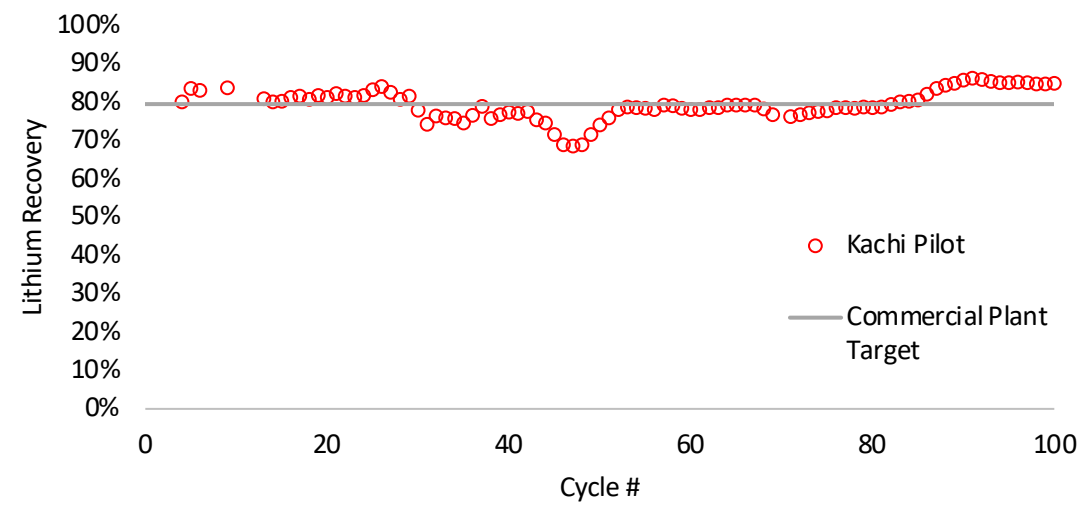


# KACHI DEMONSTRATION PLANT VALIDATED COMMERCIAL DESIGN

Oakland Mini-Pilot Performance...



...replicated at Kachi Demonstration Plant...



...with excellent selectivity and impurity rejection.

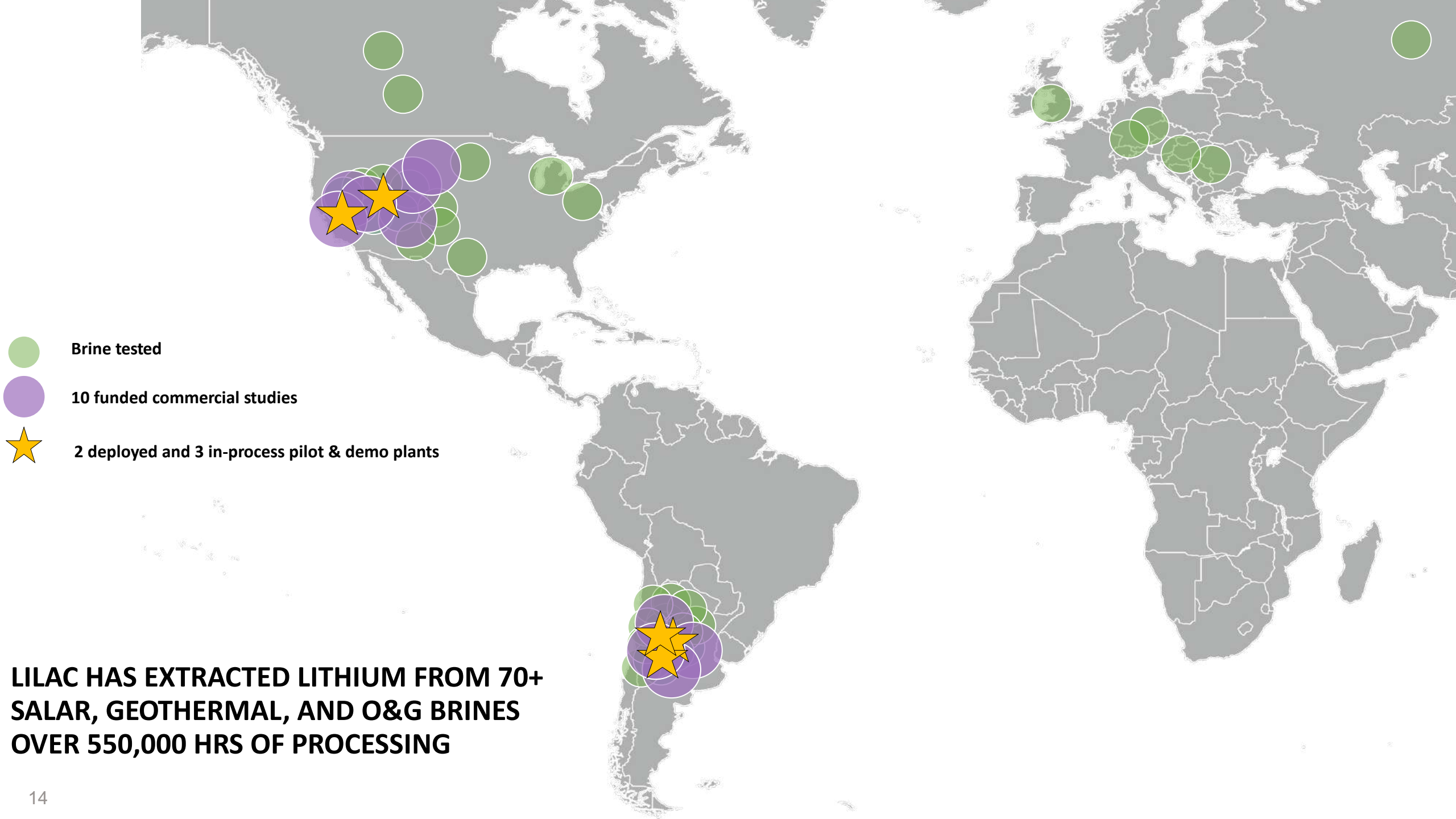
mg/L	[Li]	[Na]	[Mg]	[Ca]	[K]	[B]
Brine	269	101,000	1,070	389	5,514	334
Eluate	2,280	526	118	265	89	4
Recovery	80%					
Rejection		99.9%	99.0%	93.6%	99.8%	99.9%



**US BASED MANUFACTURING FACILITY ELIMINATES SUPPLY  
CHAIN CONCERNS AND SERVES GROWING NORTH  
AMERICAN MARKET**







- Brine tested
- 10 funded commercial studies
- ★ 2 deployed and 3 in-process pilot & demo plants

**LILAC HAS EXTRACTED LITHIUM FROM 70+  
SALAR, GEOTHERMAL, AND O&G BRINES  
OVER 550,000 HRS OF PROCESSING**





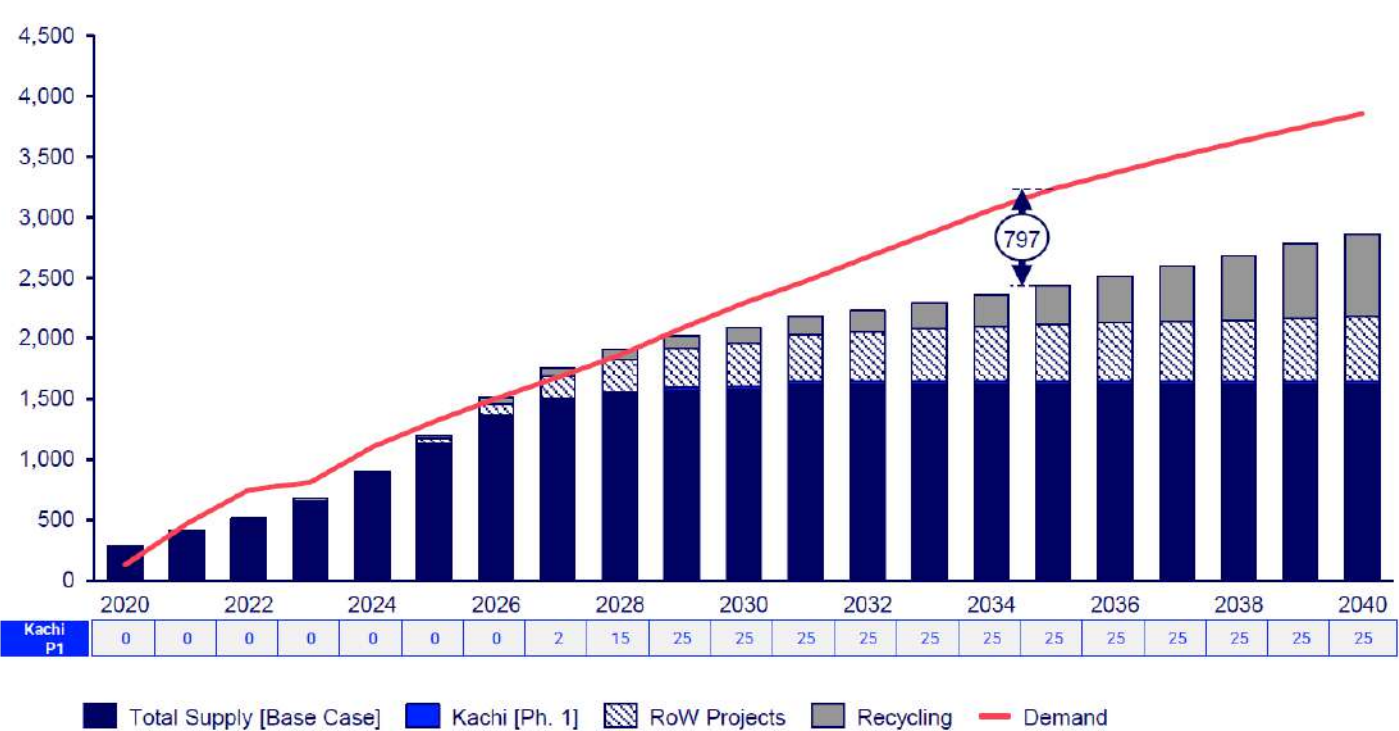
## Scaling Lithium Supply for the Electric Era



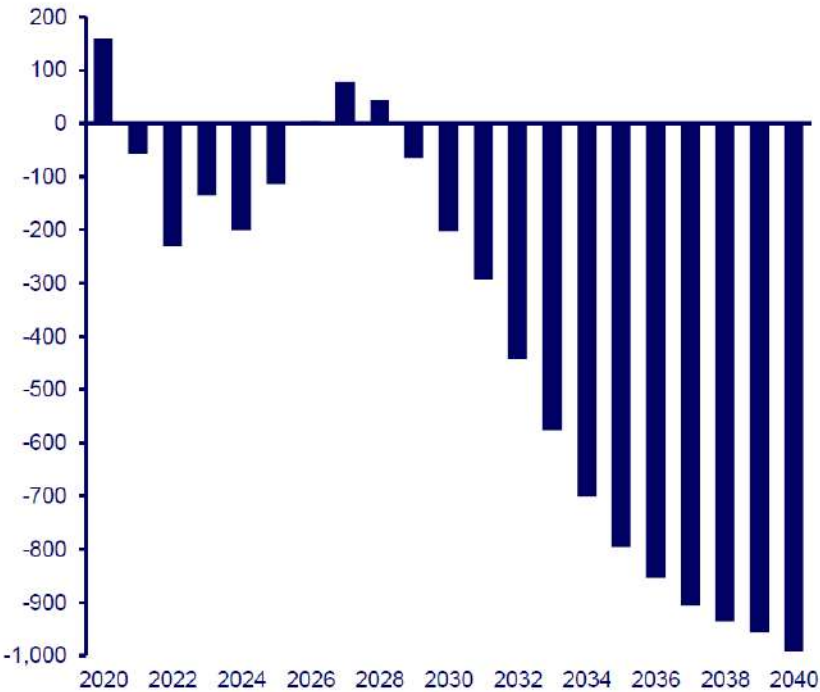
While the lithium market as a whole may not reach sustained deficit until 2031, the battery grade market is anticipated to be significantly tighter

- Deficits could emerge in the near term, and extend to ~1Mt LCE by 2040, with Kachi’s anticipated ~25Ktpa of Phase One battery grade carbonate production likely to have sufficient demand headroom in the long-term

Battery Grade Lithium Chemical Balance (All Projects, Kt LCE)

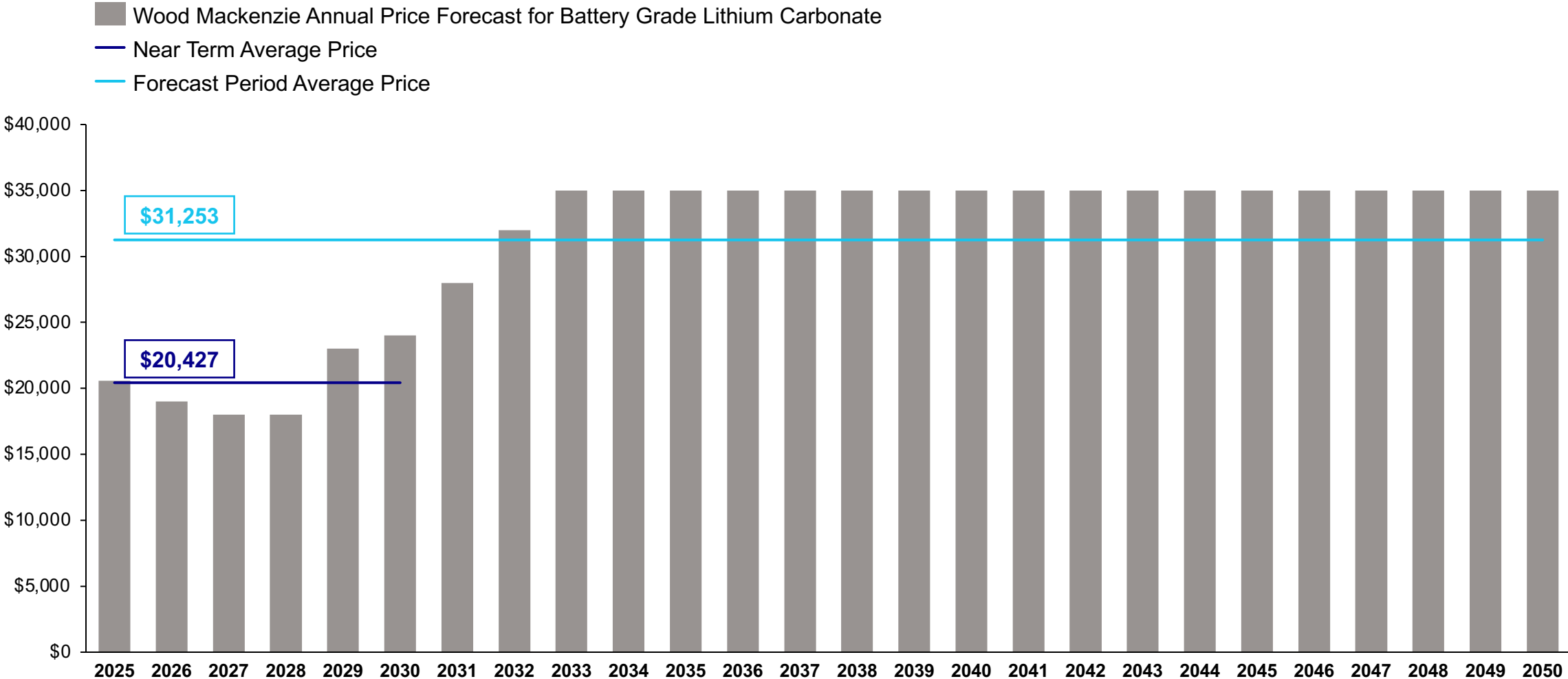


Net Balance (All Projects, Kt LCE)





## Wood Mackenzie Battery Grade Lithium Carbonate Price (\$USD/tonne)



Source: Wood Mackenzie. Refer to Lake's Kachi Project Phase One Definitive Feasibility Study Results announced on ASX on 19 December 2023. Weighted average for DFS Phase One model \$33,000 / tonne over the LoM,

# Kachi Phase One DFS Highlights

## Investment Highlights (\$ USD)

- Post-tax NPV of \$2.3 billion and IRR of 21%
- Annual average EBITDA of \$635 million
- \$1.38 billion of Capex<sup>1</sup>
- \$6.05 / kg LCE of Opex

## Project Highlights

- Total resource estimated at more than 10.6 Mt LCE, a globally significant resource<sup>2</sup>
- Defined and de-risked 25-year mine life supported by maiden Ore Reserve statement
- Mine Plan represents less than 12% of the Measured and Indicated Resource over the 25-year Life of Mine (“LoM”) and clear pathway to further expansion

## Process Design Highlights

- Demonstration plant campaigns from Oct 2022 to Nov 2023, processed 5.2 million of litres of brine and produced over 200,000 litres of lithium chloride eluate<sup>3</sup>
- Project has produced in excess of 1,300kg of >99.5% purity lithium carbonate
- Process plant is conservatively designed for >75% lithium recovery

1. Level of Capex required from final investment decision to plant performance testing. Refer to Lake's Kachi Project Phase One Definitive Feasibility Study Results announced on ASX on 19 December 2023 for more details.

2. Refer to ASX announcement dated 22 November 2023.

3. Refer to ASX announcement dated 26 September 2023.



# Next Twelve Months

<b>Strategic Partner Process for Kachi Project</b>	<ul style="list-style-type: none"><li>■ Process initiated, led by Goldman Sachs</li></ul>
<b>Offtake</b>	<ul style="list-style-type: none"><li>■ Commencement of negotiations to secure binding offtake agreements, in tandem with strategic partnering process</li></ul>
<b>EIA</b>	<ul style="list-style-type: none"><li>■ The submission of the Environmental and Social Impact Assessment (“EIA”) in early 2024, in support of the Catamarca Province development permit application</li></ul>
<b>FEED/EPCM</b>	<ul style="list-style-type: none"><li>■ Selection of FEED/EPCM contractor for the Process Plant</li></ul>
<b>Power</b>	<ul style="list-style-type: none"><li>■ Selection of an Independent Power Producer (“IPP”) for the Power Purchase Agreement (“PPA”)</li></ul>
<b>Project Financing</b>	<ul style="list-style-type: none"><li>■ Continued engagement with Export Credit Agencies and Citibank and J.P. Morgan for project financing</li></ul>

# Appendix A





Note: This table has been directly extracted from the JORC update announced on 22 November 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 22 November 2023 and all material assumptions contained in that announcement continue to apply and have not materially changed.

Measured November 2023 (to 400 m depth)								
Unit	Sediment Volume m <sup>3</sup>	Specific Yield %	Brine volume m <sup>3</sup>	Liters	Li mg/l	Li grams	Li Tonnes	Tonnes LCE
A	11,001,000,000	0.078	858,078,000	858,078,000,000	210	179,783,644,000	180,000	956,000
B	4,366,100,000	0.081	352,090,000	352,090,162,000	229	80,628,647,000	81,000	429,000
C	8,007,400,000	0.068	544,503,000	544,503,200,000	230	125,427,401,000	125,000	667,000
Fan West	8,833,000,000	0.095	839,135,000	839,135,000,000	220	184,609,700,000	185,000	982,000
<b>Total</b>	<b>32,207,500,000</b>	<b>-</b>	<b>2,593,806,000</b>	<b>2,593,806,362,000</b>	<b>-</b>	<b>570,449,393,000</b>	<b>570,000</b>	<b>3,035,000</b>
Indicated November 2023 to 600 m								
Unit	Sediment Volume m <sup>3</sup>	Specific Yield %	Brine volume m <sup>3</sup>	Liters	Li mg/l	Li grams	Li Tonnes	Tonnes LCE
A (South)	3,694,300,000	0.076	278,924,000	278,924,452,000	181	50,485,326,000	50,000	269,000
B (South)	1,489,000,000	0.075	111,543,000	111,543,670,000	179	19,959,624,000	20,000	106,000
C (South)	4,382,400,000	0.067	294,407,000	294,407,879,000	182	53,582,234,000	54,000	285,000
A (North)	3,075,200,000	0.095	292,144,000	292,144,000,000	232	67,891,052,000	68,000	361,000
B (North)	4,294,400,000	0.095	407,968,000	407,968,000,000	241	98,166,484,000	98,000	522,000
C (North)	9,188,400,000	0.092	845,333,000	845,332,800,000	182	206,021,447,000	206,000	1,096,000
400 – 600m Under Salar	12,230,170,000	0.066	806,922,000	806,922,156,000	242	195,275,162,000	195,000	1,039,000
400 – 600m West Fan Deep	4,858,200,000	0.092	446,954,000	446,954,400,000	244	109,056,874,000	109,000	580,000
<b>Total</b>	<b>43,212,070,000</b>		<b>3,484,197,000</b>	<b>3,484,197,358,000</b>		<b>800,438,203,000</b>	<b>800,000</b>	<b>4,258,000</b>
Combined Measured + Indicated								
	75,419,570,000		6,078,004,000	6,078,003,721,000		1,370,887,596,000	1,370,000	7,293,000
Inferred November 2023								
Unit	Sediment Volume m <sup>3</sup>	Specific Yield %	Brine volume m <sup>3</sup>	Liters	Li mg/l	Li grams	Li Tonnes	Tonnes LCE
A	4,756,500,000	0.080	378,325,000	378,325,351,000	185	69,975,435,000	70,000	372,000
B	1,671,300,000	0.079	131,198,000	131,197,886,000	191	25,101,960,000	25,000	134,000
C	5,287,600,000	0.074	393,746,000	393,746,422,000	218	85,950,119,000	86,000	457,000
Fan North	8,895,490,000	0.081	716,324,000	716,324,455,000	232	166,081,974,000	166,000	884,000
Fan South	12,248,490,000	0.064	781,249,000	781,249,112,000	239	186,718,538,000	187,000	993,000
Under volcano	6,718,700,000	0.074	500,471,000	500,471,260,000	192	96,334,211,000	96,000	512,000
<b>Total</b>	<b>39,578,080,000</b>		<b>2,901,314,000</b>	<b>2,901,314,485,000</b>		<b>630,162,237,000</b>	<b>630,000</b>	<b>3,352,000</b>

## Definitions

Note: These financial definitions are alternative performance measures that are not defined or specified under IFRS or AASC standards and for which there are no generally accepted reporting formats

- EBITDA = Earnings before Interest, Taxes, Depreciation and Amortization
- IRR = Internal Rate of Return
- $NPV_8$  = Net Present Value calculated using 8% WACC
- WACC = Weighted Average Cost of Capital

This presentation includes certain non-GAAP financial measures or ratios, including the average annual EBITDA regarding the results of the internal preliminary analysis. These measures have no standardized meaning under IFRS and may not be comparable to similar measures used by other issuers. The Company believes these measures and ratios provide investors with an improved ability to evaluate the Company's prospects, and in particular, the Kachi Project. As the Kachi Project is not in production, the prospective non-GAAP financial measures or ratios presented may not be reconciled to the nearest comparable measure under IFRS and the equivalent historical non-GAAP financial measure for the prospective non-GAAP financial measures or ratios discussed herein is nil.





LAKE  
RESOURCES

Thank you!