

Investor Webcast

LAKE
RESOURCES

January 29, 2024

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 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

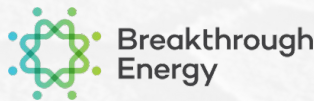
\$250M+

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

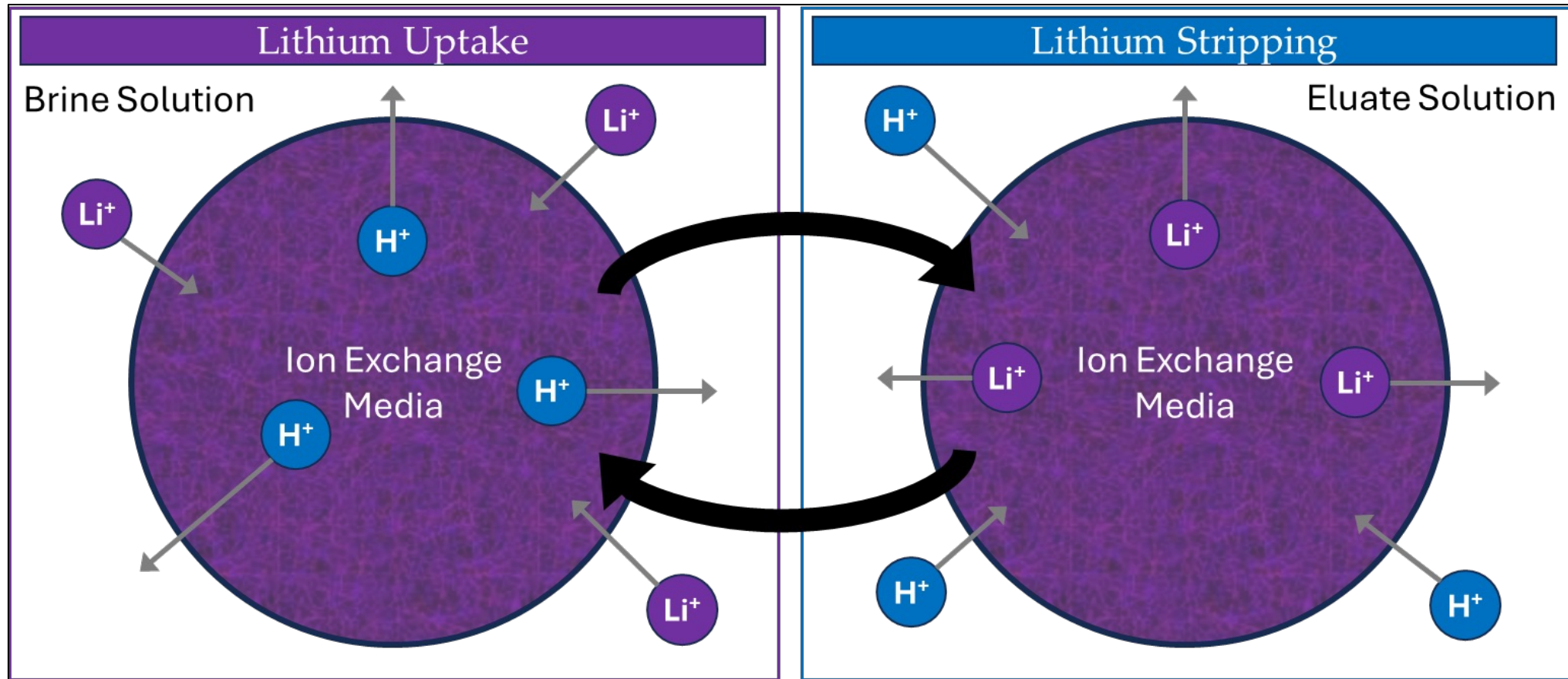
PRODUCT QUALITY CONCERNS

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



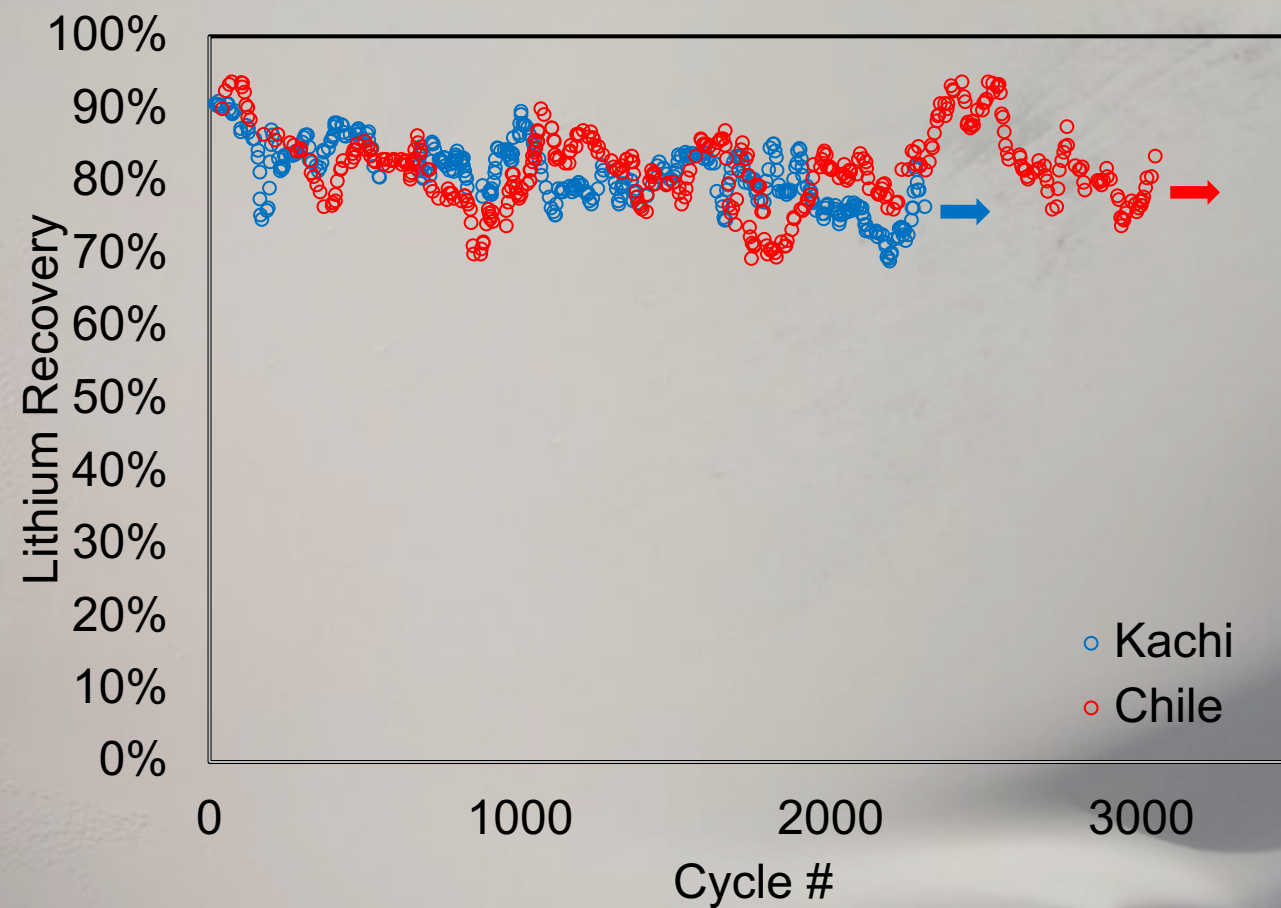


LILAC IX IS THE COMMERCIALLY VIABLE EXTRACTION TECHNOLOGY

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

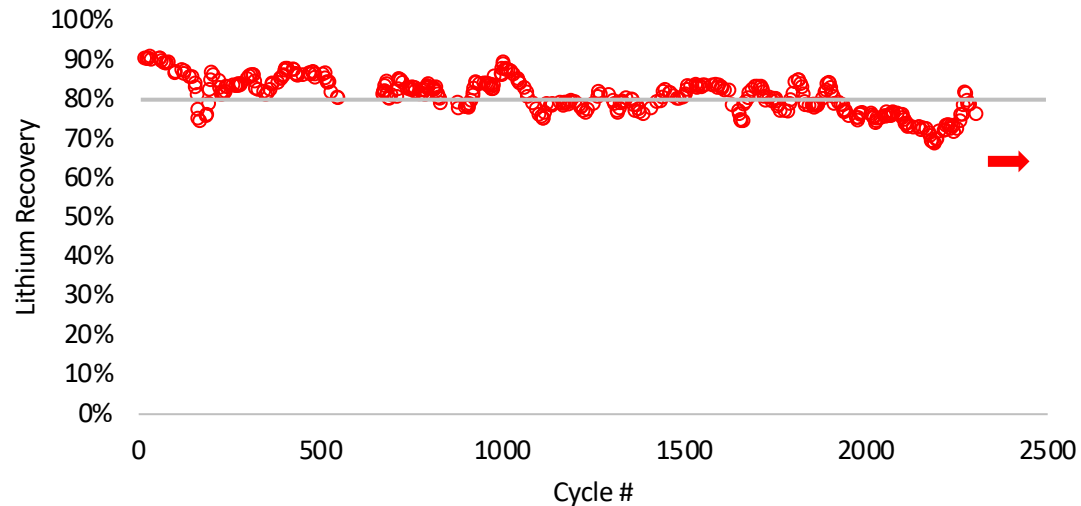
>1.3

Tonnes of battery grade
lithium carbonate
produced

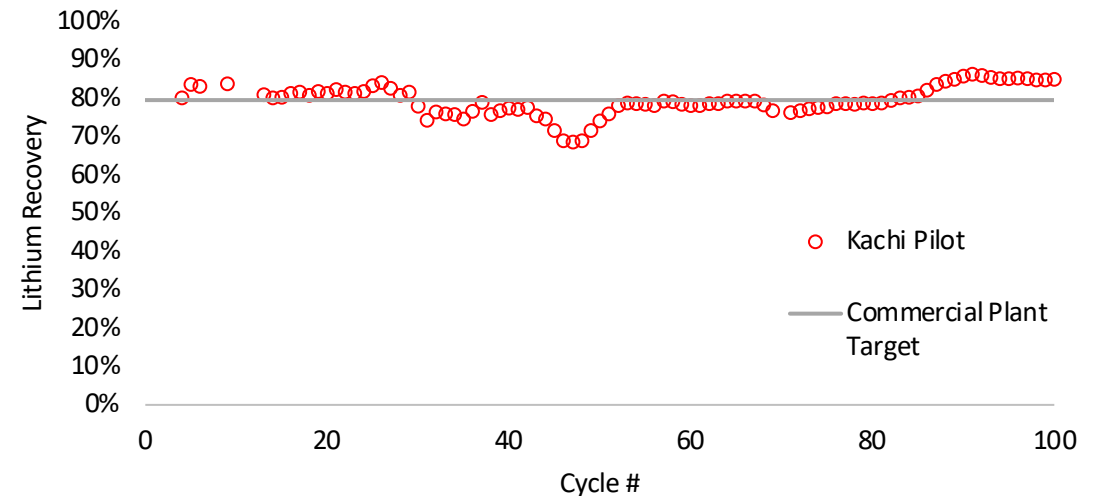


KACHI DEMONSTRATION PLANT VALIDATED COMMERCIAL DESIGN

Oakland Mini-Pilot Performance...



...replicated at Kachi Demonstration Plant...

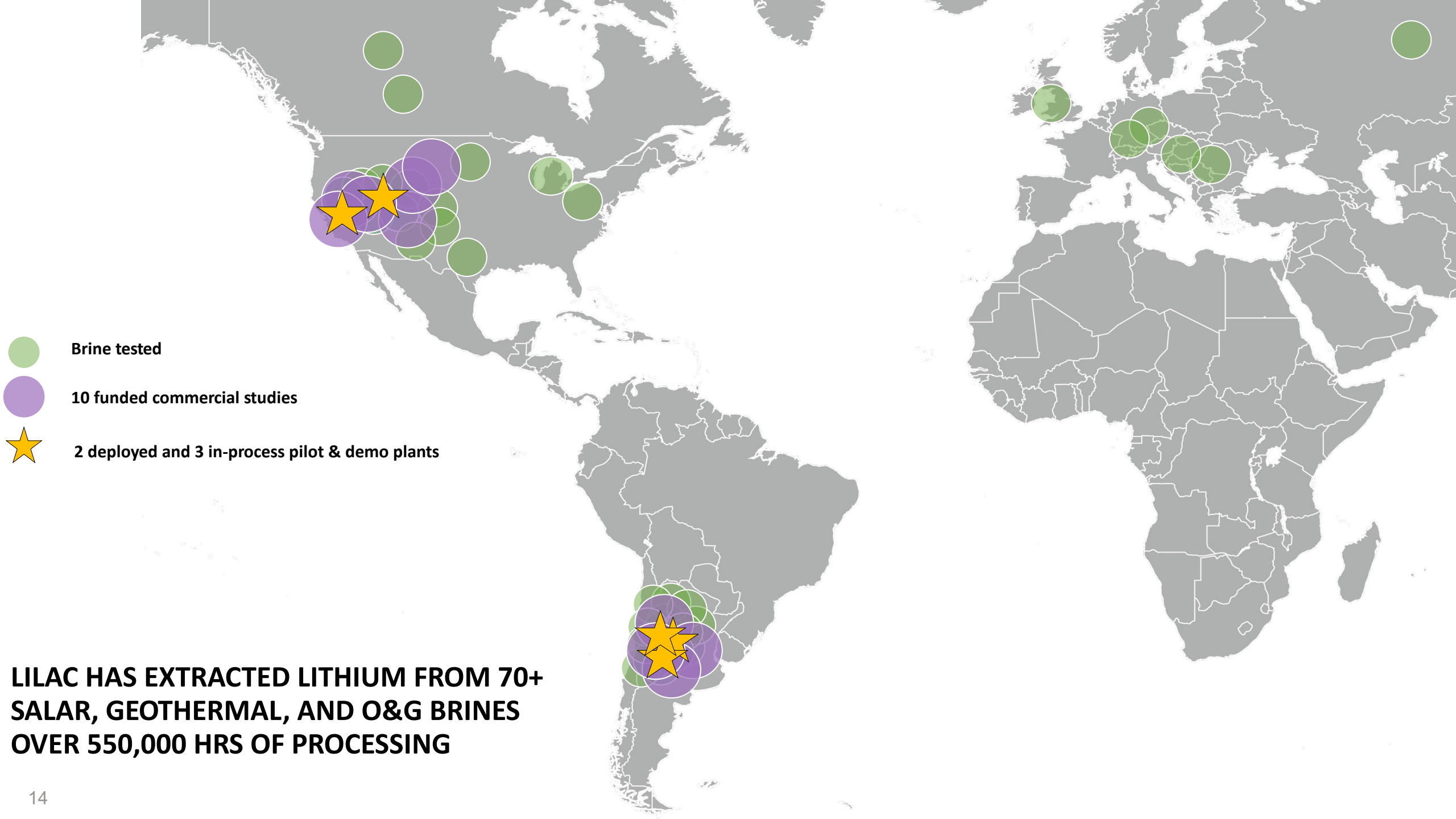


...with excellent selectivity and impurity rejection.

| 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**

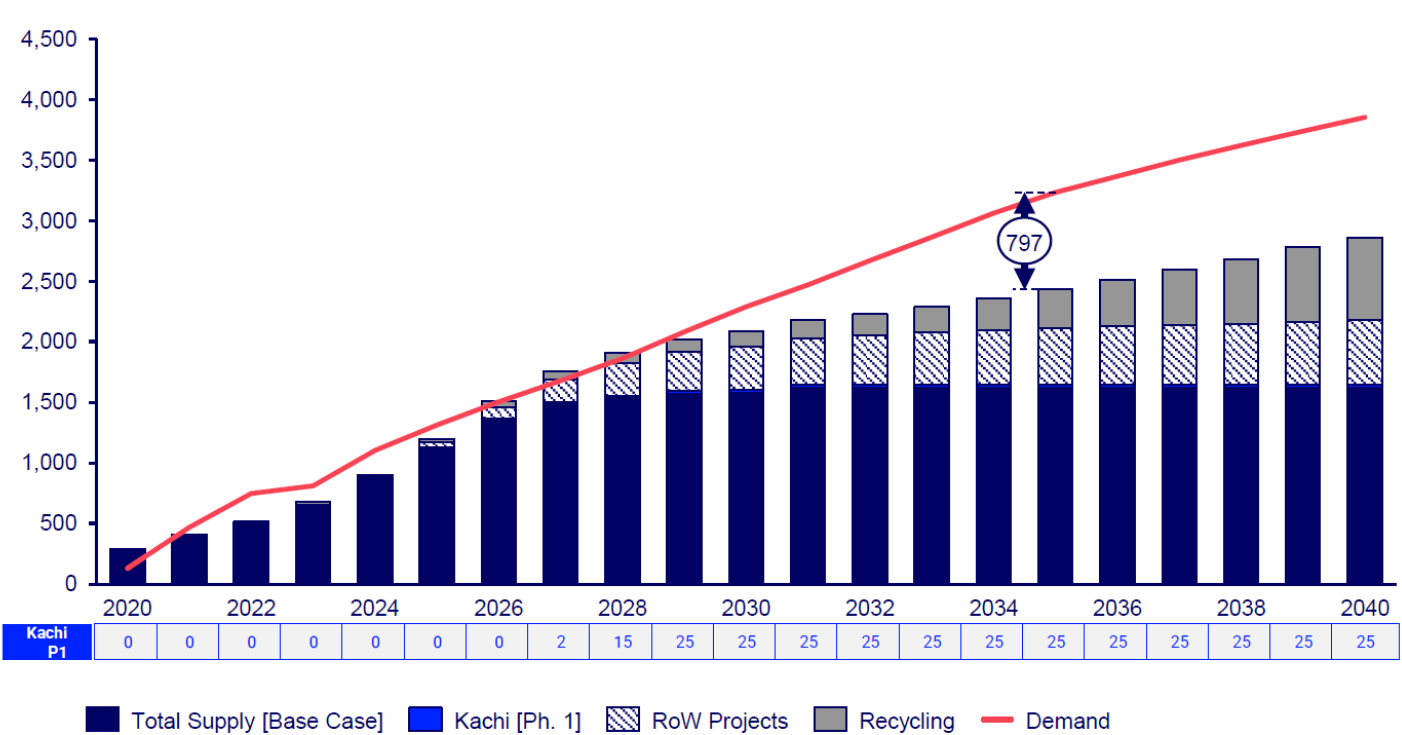


Scaling Lithium Supply for the Electric Era

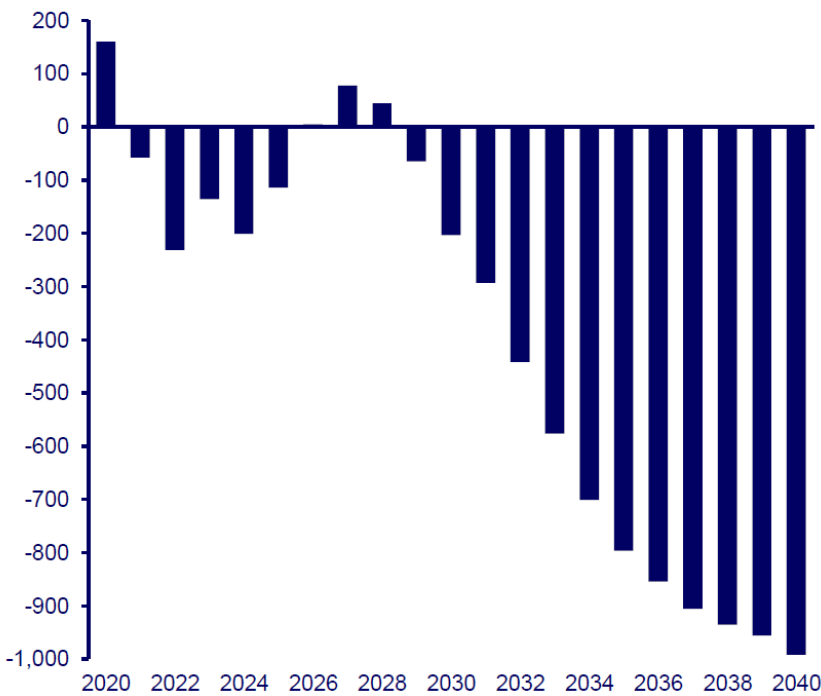
While the lithium market as a whole may not reach sustained deficit until 2031, the battery grade market is anticipated to be significantly tighter

- 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

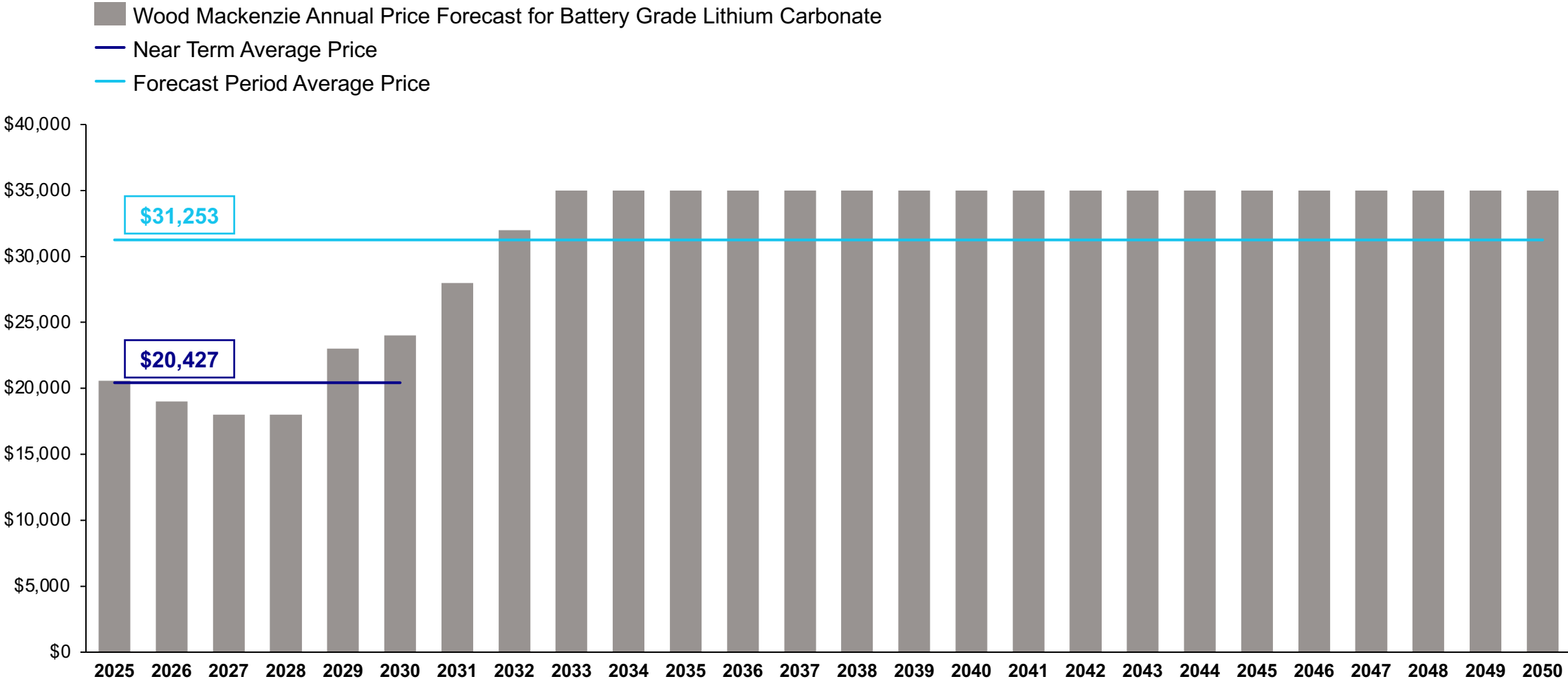
Battery Grade Lithium Chemical Balance (All Projects, Kt LCE)



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 Capex¹
- \$6.05 / kg LCE of Opex

Project Highlights

- Total resource estimated at more than 10.6 Mt LCE, a globally significant resource²
- 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 eluate³
- 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

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

Appendix A



| Measured November 2023 (to 400 m depth) | | | | | | | | |
|---|--------------------------------|------------------|-----------------------------|--------------------------|----------|------------------------|----------------|------------------|
| Unit | Sediment Volume m ³ | Specific Yield % | Brine volume m ³ | 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 |
| Total | 32,207,500,000 | - | 2,593,806,000 | 2,593,806,362,000 | - | 570,449,393,000 | 570,000 | 3,035,000 |
| Indicated November 2023 to 600 m | | | | | | | | |
| Unit | Sediment Volume m ³ | Specific Yield % | Brine volume m ³ | 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 |
| Total | 43,212,070,000 | | 3,484,197,000 | 3,484,197,358,000 | | 800,438,203,000 | 800,000 | 4,258,000 |
| 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 ³ | Specific Yield % | Brine volume m ³ | 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 |
| Total | 39,578,080,000 | | 2,901,314,000 | 2,901,314,485,000 | | 630,162,237,000 | 630,000 | 3,352,000 |

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.

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.



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RESOURCES

Thank you!