

# Sydney Mining Club



LAKE  
RESOURCES

5 October 2023



## 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.

# 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

## Our Leadership Team



Scott Munro  
SVP, Technology,  
Strategy and Risk



Sean Miller  
SVP, Field Development  
and Evaluation



Amalia Saenz  
SVP, Argentina  
Corporate Affairs



Peter Neilsen  
Chief Financial Officer



Karen Greene  
SVP, Investor Relations  
and Communications



Mark Anning  
Head of Legal, Australia  
and Company Secretary



John Freeman  
Chief Legal Officer  
and General Counsel



Gentry Brann  
Chief People and  
Administration Officer

Executive  
experience  
acquired across  
technical, financial  
and project execution



GLENCORE



MCDERMOTT

Xstrata



Argentina is an attractive location for lithium investment at scale because of its globally significant lithium resource base.

## 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. We have had recent site visits by the Governor of Catamarca and the UK Ambassador to Argentina

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>1</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 tpa target plant capacity</li><li>• Phase 2 – 25,000 tpa target plant capacity</li></ul>
<b>Non-Binding Offtake Agreements</b>	100% of Lithium Carbonate production (up to 50,000 tpa of LCE in aggregate)
<b>Mine Life<sup>1</sup></b>	25 years

Notes:

1. Numbers are preliminary internal estimates from the project reset, as reported in the 19 June 2023 ASX announcement and are not outputs from the completed DFS, which for Phase 1, is targeted for December 2023
2. See JORC release on the 15<sup>th</sup> of June 2023. All material assumptions contained in that announcement continue to apply and have not materially changed.
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 a novel approach through lessons learned:

- Using ion exchange DLE technology to optimize lithium extraction results from Kachi brine
  - Higher lithium recovery: DLE has shown average refining 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
- Lithium chemical manufacturing
  - Proven, repeatable results of high purity, high quality lithium carbonate
- Experience in developing large capital projects in remote areas

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

# Preparing for project execution at Kachi

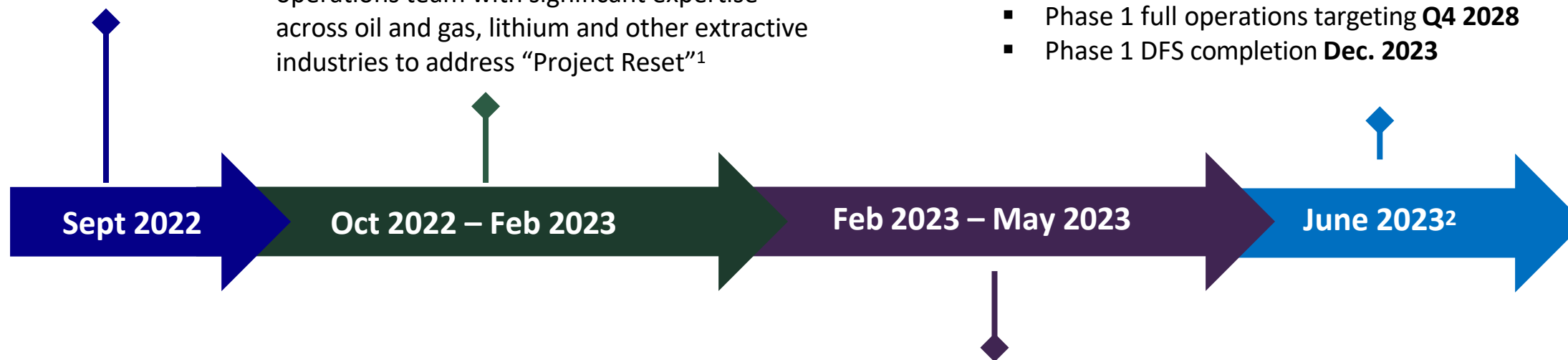
## *Clear parallels between DLE and oil & gas projects in developing Kachi*

## **Announcement of de-risked project plan <sup>2</sup>**

- 50,000 tpa target plant capacity achieved in 2x25,000 tpa phases<sup>3</sup>
  - Each phase made of two trains 12,500 tpa target plant capacity
  - Confirmation flow sheet from brine to battery grade  $\text{Li}_2\text{CO}_3$  from demo plant <sup>4</sup>
- Commercial  $\text{Li}_2\text{CO}_3$  production targeting **Q3 2027**<sup>5</sup>
- Phase 1 full operations targeting **Q4 2028**
- Phase 1 DFS completion **Dec. 2023**

### **CEO appointment**

Recruited management, technical and operations team with significant expertise across oil and gas, lithium and other extractive industries to address “Project Reset”<sup>1</sup>



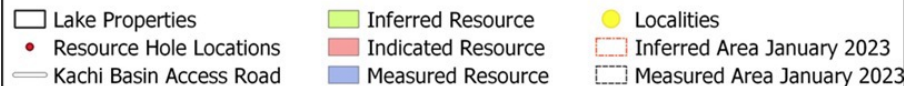
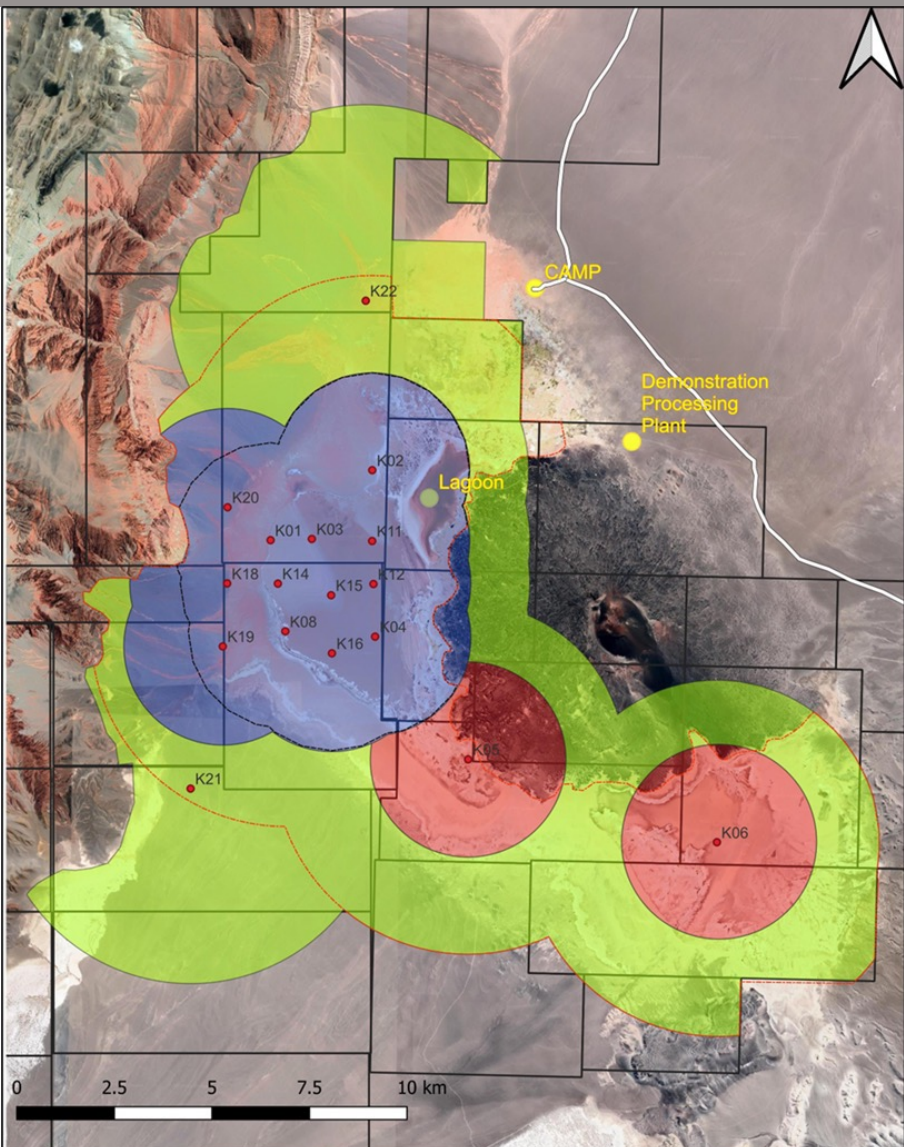
Experienced EPC team delivers  
**productivity and efficiency gains and  
bankable path to Phase 1 DFS**

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. Refer to ASX announcement dated 26 September 2023
5. When first train (12,500 tpa) in Phase 1 commences operation



# 8.1 million tonnes LCE mineral resource and growing



## The true scale of Kachi resource is emerging

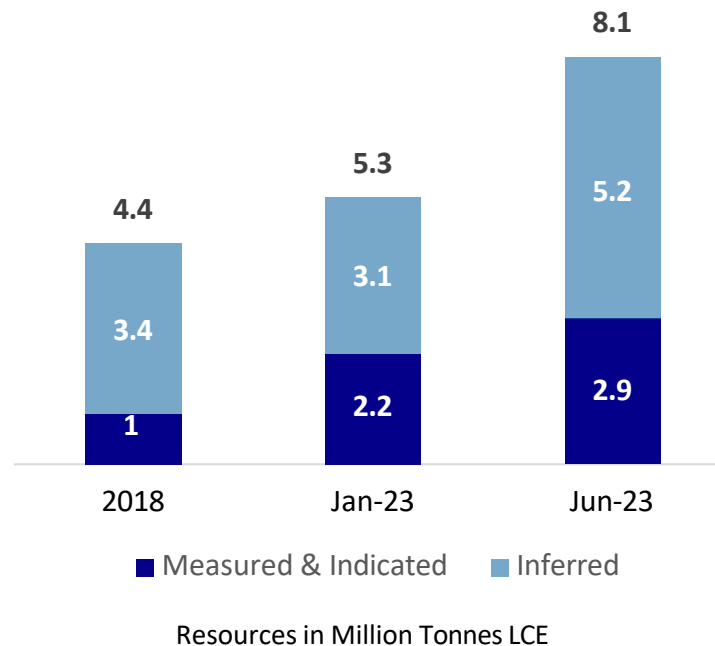
### Resource expansion from January 2023 update:<sup>1</sup>

- Measured resource has increased ~**37%** from **1.6 to 2.2 million** tonnes LCE
- Indicated resource has increased ~**24%** from **0.58 to 0.72 million** tonnes LCE
- Inferred resource has increased ~**67%** from **3.1 to 5.2 million** tonnes LCE

### Exploration target:

- High: 21.8 million tonnes LCE; Low: 5.2 million tonnes LCE

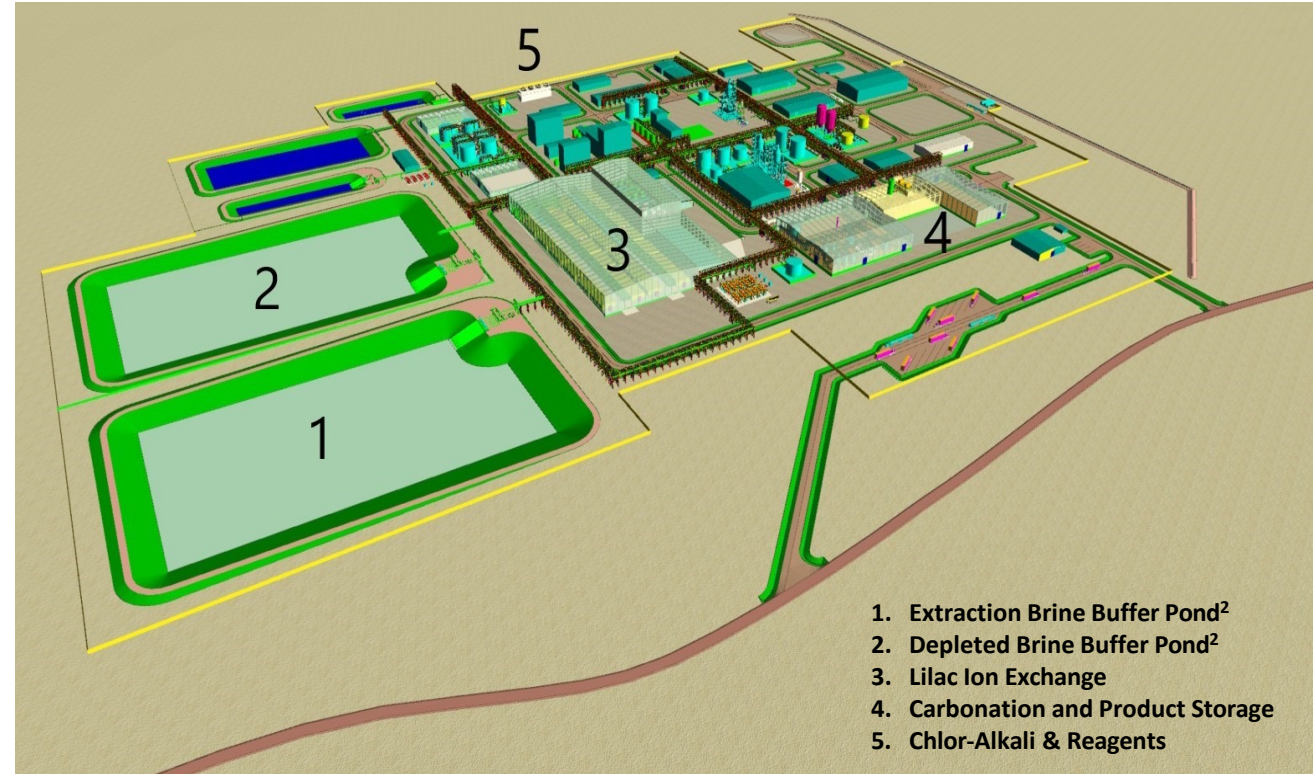
Note: The potential quantity and grade of an exploration target is conceptual in nature, there has been insufficient exploration to determine a mineral resource and there is no certainty that further exploration work will result in the determination of mineral resources or that any production will be realized.



<sup>1</sup> Numbers are based on information in Lake's JORC update announced on 15 June 2023. Refer to Appendix A for details of individual categories of the mineral resource. All material assumptions contained in that announcement continue to apply and have not materially changed.



- **Drilling program continues to confirm large scale and quality of Kachi brine<sup>1</sup>**
  - 600m depth
  - Higher grades
- **Successful extraction and injection tests<sup>2</sup>**
- **Ongoing progress in DLE technology**
  - Lithium carbonate purity and specifications have been independently verified
  - > 80% lithium recovery
- **Successful lithium carbonate test program<sup>3</sup>**
  - Demonstration plant testing completed



**Continuous progress and improvement**

1 Refer to ASX announcement on 4 October 2023

2 Refer to ASX announcement on 16 August 2023

3 Refer to ASX announcement on 26 September 2023

The process of producing lithium using DLE to leverage expertise in:

- Drilling
- Subsurface pumping
- Large, complex capital project execution (permitting, costing, execution, scheduling)
- Supply chain knowledge
- Risk management
- Expertise in logistics and transporting liquids
- Expertise chemicals processing and refining, including technology development

## Deployment at Kachi

### Lithium (using DLE)

#### Upstream

Exploration (Sub-surface imaging, pumping, Drilling, Reservoir Management, Direct Lithium Extraction), and Re-injection

#### Downstream

Refining (Eluate processing, Carbonation or Hydroxide Conversion), and Offtake

### Oil & Gas

#### Upstream

Exploration (Sub-surface imaging, pumping, Drilling, Reservoir Management, Extraction), and Re-injection

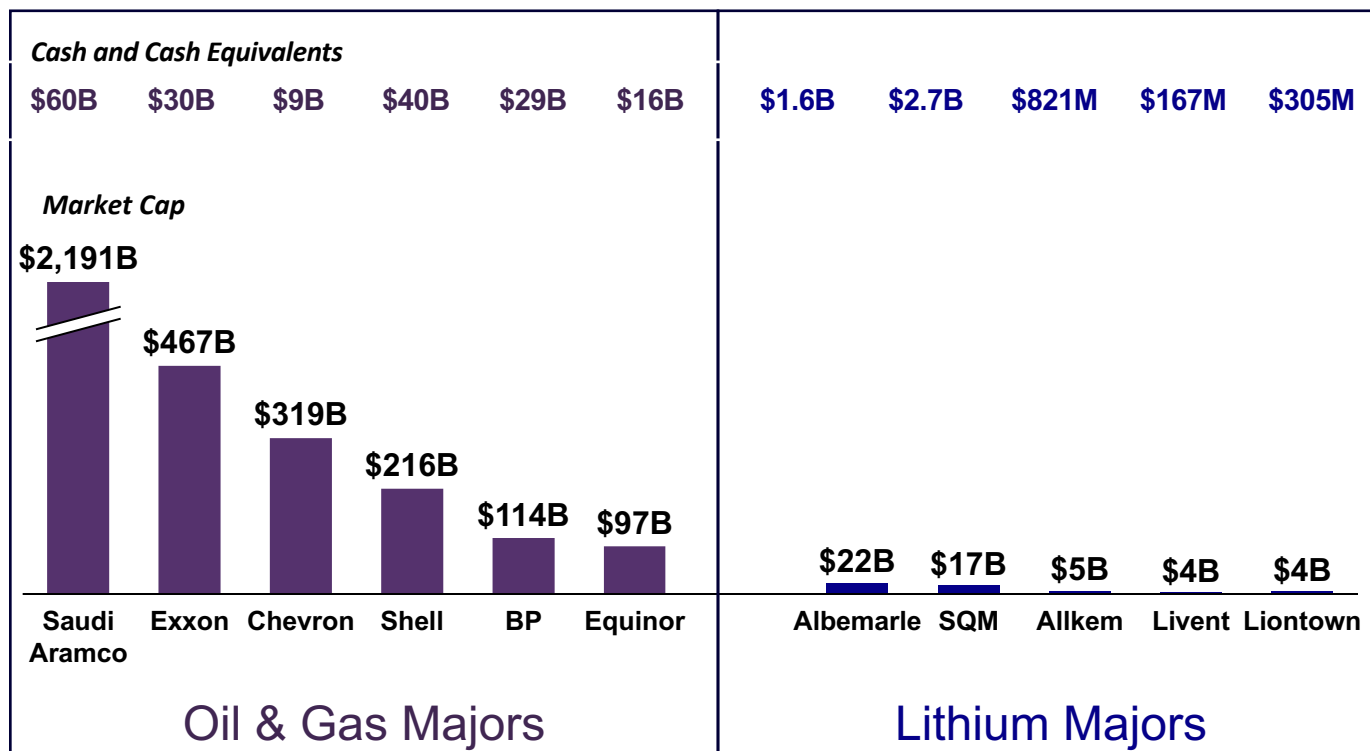
#### Downstream

Refining, Petrochemicals and Offtake (Trading, Marketing and Distribution)

# Oil & gas companies can move fast

**The lithium brine industry's nascency and lack of product standardization may present initial hurdles to major oil & gas entrants, but not for long**

Cash<sup>1</sup> and Market Capitalization<sup>2</sup>



- **Fragmented lithium industry presents opportunity for consolidation and scaling up** as seen in recent M&A announcements
- **Adjacency of lithium extraction (using DLE) to oil and specialty chemicals production, in addition to robust balance sheets, presents opportunities for oil & gas players to enter lithium market** in the drive to diversify into clean energy

1. Cash balance as of most recent publicly reported financial statements – June 30, 2023 for Exxon, Chevron, Albemarle, Livent and Liontown; December 31, 2022 for Saudi Aramco, Shell, BP, Equinor, and SQM; FY23 Annual report for Allkem  
2. Market Capitalization as of Sept 15, 2023



- **DLE works**
- **All types of lithium production are required to meet demand**
  - Responsible production methods have the potential to be prioritized
- **The oil and gas sector experience is driving breakthroughs in DLE efficiency**
- **Oil and gas companies are looking for energy transition opportunities**
- **Collaboration and cooperation are needed to drive the global energy transition**
- **The lithium industry's fragmentation presents opportunities for consolidation and entry**
- **Capital access will drive the speed of development**



# 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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Thank you!