CLEAN HIGH PURITY LITHIUM

Cleaner Lithium & Scalable To Meet EV Demand

Steve Promnitz - Managing Director
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ASX:LKE    FRA:LK1   OTC:LLKKF
Disclaimer

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Clean Solution to Electric Mobility Growth

- Electric Mobility needs Cleaner Better Batteries
- Clean Technology – Direct Extraction, Lilac Solutions
  No Mining – Water Treatment Only
- High Purity Lithium Product - 99.97% purity battery quality lithium carbonate
- Large ESG Benefit – Low water use; Returns 99% brine to source; Small footprint
- Demonstrated Path to Production; Scale to Meet Demand Growth
  Successful pilot plant; Cost-competitive; Scalable; Funded to Construction phase
Lithium Ion Batteries: One of Largest 21st Century Growth Areas

8 times to 18 times more Lithium Production required by 2030; Underinvestment in new supply

Lithium Demand Growth: 20% Year on Year

Source: Benchmark Mineral Intelligence Forecast Jan 2021

Battery Megafactory Growth

181 battery factories to 2030, up 750GWh last yr but no lithium supply growth

Source: European Commission “Action Plan on Critical Raw Materials” (mid range selected); Financial Times 31 August 2020; Benchmark Mineral Intelligence Dec 2020
Lithium Ion Batteries: One of Largest 21st Century Growth Areas

Price moving up

Lithium Carbonate:
China Lithium spot price increased ~100% - Jan-March

Where will supply come from?
“Need 7 companies SQM size per year for 10 years”

Source: Benchmark Mineral Intelligence Mar 2021

Source: Benchmark Mineral Intelligence Jan 2021
Lake is Solution to EV & Battery Demand
For demand in high purity & sustainability

• #1 High Purity Battery Materials - to avoid performance issues – Low impurities = reliable battery performance

• #2 Responsibly Sourced, Traceable, Sustainable Battery Materials - Demand: Sustainable battery materials. Smaller footprint: ↓CO₂, ↓water, ↓land use.

• #3 Low Cost Structure - Cost Competitive to deliver affordable EV batteries

• Lake/Lilac Solution – High purity/low impurity consistently; Cost Competitive; Scalable; Small environmental footprint; Low water usage
High Purity

99.97% Purity Lithium Carbonate
Produced from Kachi project brines

After processing in Lilac direct extraction pilot module

- Battery Grade considered to be 99.5%
- Kachi samples have very low impurities (60x less than 99.5% battery grade)
- Simple flowsheet; cost – competitive
Direct extraction - Small Environmental Footprint - 90% less

Lilac Direct Extraction Footprint vs Brine Evaporation Ponds (Atacama) and Hard Rock Mining (Greenbushes)

Evaporation - Atacama

Hard Rock - Greenbushes

15 km

5 km

Direct Extraction - Kachi

Direct Extraction:
Returns
brine to source

0.5 km
Direct extraction - Small Environmental Footprint

Brine Evaporation smaller CO2 footprint than hard rock; Lilac Direct Extraction reduces water impact

Comparison of CO₂e emissions, kg CO₂e/kg product

Source: SQM

Grey: Reference material, information from technical literature
**Green:** Spodumene based products
**Blue:** Brine products
LCE = Lithium Carbonate Equivalent
Li₂CO₃ corresponds to 1 LCE
0.88 / LiOH*H₂O corresponds to 1 LCE

Energy split by fuel use (KWh/LCE)

AU / CN: Australia / China
*Cradle-to-Gate
Source: Raskill

Source: SQM
Direct extraction - Cleaner

Re-engineered Known Water Treatment Technology

- Efficient – just lithium removed
- Faster – hours not months
- Higher recoveries
- High purity – only lithium removed
- Cost competitive
- Scalable; Can expand to meet demand
- Environmentally friendly - small footprint
- Returns brine to source- no change (except lithium removal)
Direct extraction.
Ion Exchange Process
Lilac Solutions

Replaces Evaporation Ponds with Ion Exchange Modules
Simple Process – Repeated every 2.5 hours
Simple Flowsheet to produce lithium carbonate

3 HOURS
To produce Concentrate vs 12-24 mths

BRINE RETURNED
WITHOUT CHANGES
EXCEPT LITHIUM REMOVAL

BRINE RESOURCE

ION EXCHANGE TANK

30-60,000 PPM LI CONCENTRATE

LITHIUM CARBONATE PLANT
AND/OR LITHIUM HYDROXIDE PLANT
De-Risked Processing; Simple Production Scale-up

Direct Extraction Lithium – Lilac Pilot Plant Module

Pilot
1-2 modules

Direct Extraction Lithium – Lilac Production Scale

Production Scale
50+ modules

Pilot to Production

Modules here are not an example of the actual modules
Low Impurities - Premium Pricing - Cost Competitive

- **Direct Extraction Kachi Project** Positioned at lower end of cost curve

**Lithium Carbonate Pricing Range**

- **Brine**
- **Hardrock**

**Chemical Component** | **Actual (wt%)** | **Target**
--- | --- | ---
Lithium (Li) | 99.97 | 99.5 Min
Sodium (Na) | 0.0011 | 0.025 Max
Magnesium (Mg) | <0.01 | 0.036 Max
Calcium (Ca) | <0.01 | 0.056 Max
Potassium (K) | 0.0049 | 0.06 Max
Sulphur (S) | <0.1 | 0.01 SO4 Max
Aluminium (Al) | <0.01 | 0.021 Max
Iron (Fe) | <0.01 | 0.01 Max
Silicon (Si) | <0.01 | 0.005 Max
Boron (B) | <0.01 | 0.005 Max

Source: LKE announcements 20/10/2020, 14/01/2020
Prime Location – Large Producers.

Lithium Triangle: 40% of world’s lithium production at the lowest cost.

5 largest producers all have operations ALB, SQM, LTHM + Tianqui, Ganfeng JV

Lake has a large project at Kachi
3 other brine projects
Over 220,000 hectares (550,000 acres)
Kachi Project.
100% Lake owned

Major brine resource - Top10

4.4 Mt LCE Total Resource
(1Mt LCE Indicated Resource; 3.4 Mt Inferred)

25 yrs production uses 20% resource

74,000 hectares of leases
(185,000 acres; size of NYC)

PFS 2020
DFS/ESIA 2021
Production 25,500tpa 2024
Kachi - Advantages: Large, Clean, Expandable

- **Large**: 4.4 million tonne LCE.
- **Expandable**: Open laterally; Open at depth
- **Clean**: Brine low in impurities
- **Long Life, High Value**: 25 year production 25,500 tpa LCE; US$1050 million project value
- **Cost Competitive**: Operating costs similar to evaporation ~US$4100/t
- **Scalable**: Modular processing allows easy scaling to +50,000tpa
Kachi - High Margin Pre-Feasibility Results

• **Long Life, High Value Project** - 25 year production 25,500 tpa LCE**; US$1.6 Billion project value* (NPV @ 8% discount rate, Pre-tax)

• **High Margin Lithium Production**
  - US$260 million EBITDA annually*

• **High Purity** - 99.97% purity battery grade Li₂CO₃

• **Cost Competitive among Brine Producers**
  Operating cost US$4170/t Li₂CO₃ ; Capex US$540 million

• **Project Production could Double** – Study underway

Note: Results based on PFS Study Assumptions  * Assuming US$15,500/t lithium carbonate CIF future price.  ** Based on Indicated Resource 1.0Mt @290mg/L lithium
### PFS – Kachi Updated

**High Value ; High EBITDA**

**Cost Competitive; High Value Product**

<table>
<thead>
<tr>
<th>Key Financial Parameters</th>
<th>Values</th>
</tr>
</thead>
<tbody>
<tr>
<td>NPV$_8$ (NPV @ 8% discount rate) Pre-tax</td>
<td>US$2.17 billion (A$2.9 billion)*</td>
</tr>
<tr>
<td>NPV$_8$ (NPV @ 8% discount rate) Post-tax</td>
<td>US$1.58 billion (A$2.1 billion)*</td>
</tr>
<tr>
<td>IRR pre-tax</td>
<td>41%</td>
</tr>
<tr>
<td>IRR post-tax</td>
<td>35%</td>
</tr>
<tr>
<td>EBITDA, annual</td>
<td>US$257 million (A$350 million)*</td>
</tr>
<tr>
<td>Updated Lithium Carbonate Battery Grade Price</td>
<td>US$15,500/tonne</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Parameters</th>
<th>Values</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project Life</td>
<td>25 years</td>
</tr>
<tr>
<td>Production Rate – Lithium Carbonate</td>
<td>25,500 tonnes LCE per year**</td>
</tr>
<tr>
<td>Mineral Resource (Indicated)</td>
<td>1.01 Million tonne LCE</td>
</tr>
<tr>
<td>Recovery</td>
<td>83 %</td>
</tr>
<tr>
<td>Capital Investment (at start-up)</td>
<td>US$544 million</td>
</tr>
<tr>
<td>Operating Cost (annual)</td>
<td>US$107 million</td>
</tr>
<tr>
<td>Cash Cost (Opex, C1)</td>
<td>US$4178/tonne LCE</td>
</tr>
</tbody>
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*Note: PFS Study Updated 17 Mar2021  * Assuming conservative US$15,500/t lithium carbonate CIF future price.  ** Based on Indicated Resource 1.0Mt @290mg/L lithium
DFS Commenced - Direct extraction

Production Plant Design with Lilac Solutions Direct Extraction Technology

Definitive Feasibility Study Commenced – Using Solar Hybrid power

<table>
<thead>
<tr>
<th>Area</th>
<th>Description</th>
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</thead>
<tbody>
<tr>
<td>A</td>
<td>Direct extraction (Lilac IX plant)</td>
</tr>
<tr>
<td>B</td>
<td>Eluate concentration</td>
</tr>
<tr>
<td>C</td>
<td>Impurity removal</td>
</tr>
<tr>
<td>D</td>
<td>Lithium production</td>
</tr>
<tr>
<td>E</td>
<td>Bagging plant and product storage</td>
</tr>
<tr>
<td>F</td>
<td>Chlor-Alkali plant</td>
</tr>
<tr>
<td>G</td>
<td>Warehouse, reagents and water treatment</td>
</tr>
</tbody>
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Lake’s Clean Lithium into Batteries Performs Like Tier 1 Products

**Novonix - battery technology leader** (ASX:NVX; OTCQX:NVNXF)
Tier 1 firms - Panasonic, CATL, Samsung, SK, LG Chem, Bosch, Dyson
Dr Jeff Dahn - Icon in the battery tech space
Developed latest cathode & anode technology

**Lake’s lithium carbonate tested – Positive Results**
Demonstrates that Lake's product is truly battery quality
Accelerates discussions downstream
Only ~35% of lithium production Tier-1 qualified as battery quality
Strengthens Lake’s quality and ESG benefits
Production Timeline.

Exploration / Lab Testing
- 2016 Area pegged
- 2018 Major Resource Kachi
- 2019 Discovery Cauchari

PFS / Pilot Plant High Purity Lithium
- 2019/20 PFS – High Margin Project
- 2020 Pilot Plant Module
- 2020 High Purity Lithium

DFS / Demonstration Plant
- 2021 DFS / ESIA
- 2021 Demo Plant Onsite
- 2021 Samples in Batteries
- 2021 Samples to Offtake

Construction / Production
- 2022 Finalise Financing
- 2022 Approvals/Construction starts
- 2024 Production
  - 25,500 tpa LCE
Cauchari Project.

Lake results show:
- Similar brines & similar high grades
- Alongside Ganfeng/Lithium Americas
  40,000tpa LCE in construction

Lake - 506m Brine zone
421-540mg/L lithium (102-608m)

Orocobre Resource - 6.3Mt @ 476mg/L Li

Ganfeng/LAC Resource - 23Mt LCE @ 581mg/L lithium

LAC Production Plant in Construction

Source: LKE; Advantage Lithium AAL TSXV announcements 5/3/2018, 10/01/2019, 7/03/19, 24/04/19. The marked locations are indicative only.
LAKE RESOURCES (ASX:LKE, OTC:LLKKF)

Total Current Shares on Issue 1,014,566,231

Listed Options (10c)  Jun 2021 Expiry  44,690,986
Unlisted Options (9c)  Jul 2021 Expiry  15,000,000
Unlisted Options (30c) Mar 2023 Expiry  73,750,000

Market Data

Market Cap ($A) @ A$0.35/sh (10 day VWAP, 15 March) A $350 million US$270 million
Cash ($A)  31 Jan 2021 ~A$24 million ~US$19 million
Secured debt  $ 0
Share Price  52 week range $0.022 – 0.46/sh
Share Register  42% Top30, HNW Investors, US/EU/Aus funds

Funded to Construction
Significant Upside

Lake $350m vs Peers $500-700m market cap
Trading at 15%NPV₈ vs Peer 70% NPV₈

vs Standard (SLL) Direct Extraction USA
vs Neo Lithium (NLC) Development Argentina

Source: ASX / TSX / NYSE company disclosures; SEDAR; Bloomberg; Company sources: 15 March 2021
Leadership.

Lake has extensive development experience. Full team in country for 5 years.

**Steve Promnitz**
MANAGING DIRECTOR

Extensive project management experience in South America – geologist, chemist and finance – with major companies (Rio Tinto, Citi) and mid-tiers. Developed projects previously in Argentina.

**Stu Crow**
CHAIRMAN NON-EXEC

More than 25 years of experience (numerous public companies) and in financial services; Keen interest in energy transition

**Nick Lindsay**
TECHNICAL DIRECTOR
LEADING DFS STUDY

30 years of experience in Argentina/Chile/Peru (PhD in Metallurgy & Materials Engineering); Major companies (Anglo) and taken companies from inception to development to acquisition in Chile, across border from Kachi

**Robert Trzebski**
NON-EXEC DIRECTOR

International mining executive; 30 years experience; operational, commercial and technical experience in global mining incl. Argentina. Extensive global contacts to assist Lake with project development. Chief Operating Officer of Austmine Ltd. Director Austral Gold.
Clean High Purity Lithium - Unique Proposition.

- **High Purity Lithium, Scalable** – Demanded by Battery Makers

- **ESG Benefit, Sustainable** – Demanded by EV makers - Clean technology has far smaller environmental footprint – lower water use, smaller land use, small CO2 footprint

- **21st Century Solution to Batteries for EV’s** – Lake’s clean lithium being tested in latest batteries

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Appendix

Clean High Purity Lithium

www.lakeresources.com.au

Kachi Lithium brine Project.

<table>
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<tr>
<th>KACHI LITHIUM BRINE PROJECT</th>
<th>MINERAL RESOURCE ESTIMATE</th>
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<tbody>
<tr>
<td>JORC Code 2012 Edition</td>
<td>Indicated</td>
</tr>
<tr>
<td>Area, km²</td>
<td>17.1</td>
</tr>
<tr>
<td>Aquifer volume, km³</td>
<td>6</td>
</tr>
<tr>
<td>Brine volume, km³</td>
<td>0.65</td>
</tr>
<tr>
<td>Mean drainable porosity %</td>
<td>10.9</td>
</tr>
<tr>
<td>Element</td>
<td>Li</td>
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<tr>
<td>Weighted mean concentration, mg/L</td>
<td>289</td>
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<tr>
<td>Resource, tonnes</td>
<td>188,000</td>
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<tr>
<td>Lithium Carbonate Equivalent (LCE), tonnes</td>
<td><strong>1,005,000</strong></td>
</tr>
<tr>
<td>Potassium Chloride, tonnes</td>
<td>6,705,000</td>
</tr>
</tbody>
</table>

Lithium is converted to lithium carbonate (Li₂CO₃) with a conversion factor of 5.32
Potassium is converted to potassium chloride (KCl) with a conversion factor of 1.91
Appendix – Table 1 Report – JORC Code 2012.