CLEAN HIGH PURITY LITHIUM

99.97% purity lithium carbonate with clean technology at scale

Steve Promnitz - Managing Director
12 November 2020 - Noosa Conference
Disclaimer

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Competent Person Statement

The information contained in this presentation relating to Exploration Results, Mineral Resource estimates and the associated Indicated Resource, which underpins the production target in the pre-feasibility study, have been compiled by Mr Andrew Fulton. Mr Fulton is a Hydrogeologist and a Member of the Australian Institute of Geoscientists and the Association of Hydrogeologists. Mr Fulton has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the activity being undertaken to qualify as a competent person as defined in the 2012 edition of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves. Andrew Fulton is an employee of Groundwater Exploration Services Pty Ltd and an independent consultant to Lake Resources NL. Mr Fulton consents to the inclusion in this presentation of this information in the form and context in which it appears. The information in this presentation is an accurate representation of the available data to date from initial exploration at the Kachi project and initial exploration at the Cauchari project.
Clean Technology – No Mining.

- **Clean Technology** – Adaptation of known water treatment method; No mining

- **Disruptive Direct Extraction with Tech Partner, Lilac Solutions** – Efficient lithium separation from salty water (brine); cost competitive vs traditional process; Technology partner backed by Bill Gates-led Breakthrough Energy fund, MIT’s The Engine

- **High Purity Lithium** - 99.97% purity battery quality lithium carbonate – Future focus in battery materials supply; only 50-60% of production is battery quality

- **Responsibly Sourced; Sustainable** – Returns 99% brine to source

- **Path to Production** – Pilot plant module shows small scale-up to production scale
Why Lithium? Growing Demand for Quality

Need 18 times more Lithium Production by 2030; Underinvestment in new supply

EU Commission Report – 3 September 2020

Need 18 times more Lithium Production by 2030
1st time lithium added to critical raw materials list

Megafactory growth 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
Why High Purity? Growing Demand

99.97% Purity Lithium Carbonate
Produced from Kachi project brines by Hazen labs

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)
- Battery market demands low impurity products (to avoid reprocessing)
- Lake benefits from simple flowsheet; cost – competitive
Why Low Impurities? Premium Pricing & Cost Competitive

Direct Extraction Kachi Project Positioned at lower end of cost curve

Chemical Component | Actual (wt%) | Target
---|---|---
Lithium (Li) | 99.97 | 99.5 Min
Sodium (Na) | 0.0011 | 0.025 Max
Magnesium (Mg) | <0.001 | 0.008 Max
Calcium (Ca) | <0.001 | 0.005 Max
Potassium (K) | 0.0049 | 0.005 Max
Sulphur (S) | <0.01 | 0.01 SO4 Max
Aluminium (Al) | <0.001 | 0.001 Max
Iron (Fe) | <0.001 | 0.001 Max
Silicon (Si) | <0.001 | 0.005 Max
Boron (B) | <0.001 | 0.005 Max

Source: LKE announcements 20/10/2020, 14/01/2020
Why Direct extraction? Clean, Efficient

Re-engineered well-known technology in water treatment

No Evaporation or Mining

- Efficient – just lithium removed from brine
- Faster – days not months or years
- Higher recoveries than evaporation
- High purity – because only lithium removed
- Cost competitive and scalable
- Environmentally friendly - small footprint
- Returns brine to source; no change to chemistry
Direct extraction.  
Ion Exchange Process  
Lilac Solutions

- **Disruptive Technology**: (3 hrs to 30-60,000ppm vs 1-2 years)
- **Saves time and money** - Faster production. Recoveries doubled
- **Lower impurities** – Higher purity as only lithium is extracted.
- **Sustainable solution** – Brine reinjected; no change to chemistry

**3 HOURS**  
To produce Concentrate vs 12-24 mths
High Purity Lithium Process – Simple

Pumping Brines - Kachi

Direct Extraction Lithium Chloride – Lilac Pilot Plant Module

Lithium Carbonate - Hazen

Cathode/ Battery - Novonix
Why Direct extraction? Small Environmental Footprint

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

Direct Extraction: Returns brine to source
Why Sustainable Lithium? ESG in demand

Electric Vehicle Makers want more sustainable battery materials in EV’s

- Electric Vehicle Makers, EU Seek More Sustainable Lithium – Volkswagen, Daimler, BMW, EU want more responsible sourcing of battery materials (Reuters)

- Direct extraction is not mining and avoids water politics – Known water treatment process (since 1940’s) drastically cuts water use (Bloomberg)

- Lilac is backed by known high profile investors – Lilac supported by Bill Gates-led Breakthrough fund, MIT’s The Engine Fund

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

Lake has a large project at Kachi
3 other brine projects
Kachi Project.
100% Lake owned

Major brine resource - Top10
4.4 Mt LCE Total Resource
(1Mt LCE Indicated Resource; 3.4 Mt Inferred)

PFS only uses 20% of resource
Open at depth and laterally

70,000 hectares of leases
(11x Size of Manhattan Island)

It’s Not About Grade –
In industrial chemistry, ‘low impurities’ is king
Why Kachi? High Margin Pre-Feasibility Results

- **Long Life, High Value Project** - 25 year production 25,500 tpa LCE**; US$1050 million project value* *(NPV @ 8% discount rate, Pre-tax)*

- **High Margin Lithium Production** –
  - 55% Operating Margin; US$465 million EBITDA in 1st 3 years*

- **High Purity** - 99.9% purity battery grade Li$_2$CO$_3$

- **Cost Competitive among Brine Producers** – Operating cost US$4170/t Li$_2$CO$_3$

- **Project Value could more than Double** – with premium pricing

*Note: Results based on PFS Study Assumptions  * Assuming conservative US$11,000/t lithium carbonate CIF future price. ** Based on Indicated Resource 1.0Mt @290mg/L lithium
Lake’s Clean Lithium into Batteries – Novonix

**Novonix - battery technology leader (ASX:NVX; OTCQX:NVNXF)**

Tier 1 firms
- Panasonic, CATL, Samsung, SK, Apple, Bosch, Honda and Dyson

Work with Dr Jeff Dahn at Dalhousie Uni
- a ground breaking "name" in the battery tech space

Developed latest cathode & anode technology

**Lake’s lithium carbonate tested quickly, transparently**

Demonstrate that Lake's product is truly battery quality

Accelerates discussions downstream

Only ~35% of lithium production qualified as battery quality by Tier 1 battery makers

Only 50-60% of lithium production is battery quality

Strengthens Lake’s quality and ESG benefits
Cauchari Project.

Lake results show:
- similar brines
- similar high grades
- similar flow rates.

506m Brine zone vs 198m in adjoining project

Source: LKE; Advantage Lithium AAL.TSXV announcements 5/3/2018, 10/01/2019, 7/03/19, 24/04/19. The marked boundaries are indicative only. Please refer to the detailed map.
Production Timeline.

**H1 - 2020**
- High purity samples
- Kachi direct extraction pilot plant module – operating
- Kachi PFS (Apr 2020) – Robust economics; cost competitive

**H2 – 2020, H2 - 2021**
- Kachi samples to battery makers for qualification purposes; testing by Novonix
- Kachi – offtake and strategic partner discussions
- Kachi – Initiate DFS, EISA, pilot plant to site
- Complete DFS, approvals; construction finance

**2016-19**
- Large Lease Area Pegged in 2016
- Kachi – Large new discovery; major resource
- Kachi – PFS commenced; Pilot plant initiated
- Direct Extraction method – Testing
- Cauchari – extended high grades; discovery

**2022-2023**
- **Kachi – Production**
  - Kachi – 25,500tpa LCE; Capex US$540m
  - Phased expansion from 10,000tpa LCE
  - Capex Reduced
  - Olaroz, Cauchari – Drill, Resource, PFS
### LAKE RESOURCES (ASX:LKE, OTC:LLKKF)

<table>
<thead>
<tr>
<th>Description</th>
<th>Quantity</th>
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<tbody>
<tr>
<td>Total Current Shares on Issue</td>
<td>792,128,624</td>
</tr>
<tr>
<td>Listed Options (10c)</td>
<td>Jun 2021 Expiry</td>
</tr>
<tr>
<td>Unlisted Options (4.6c)</td>
<td>Oct 2022 Expiry</td>
</tr>
<tr>
<td>Unlisted Options (8c)</td>
<td>Feb 2022 Expiry</td>
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<tr>
<td>Unlisted Options (9c)</td>
<td>Jul 2021 Expiry</td>
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### Market Data

<table>
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<tr>
<th>Description</th>
<th>Quantity</th>
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</thead>
<tbody>
<tr>
<td>Market Cap ($A)</td>
<td>@ $0.06/sh (15 day VWAP, 11 Nov) A $47 million US$34 million</td>
</tr>
<tr>
<td>Cash ($A)</td>
<td>30 Sept 2020 A$3 million</td>
</tr>
<tr>
<td>Secured debt</td>
<td>$ 0</td>
</tr>
<tr>
<td>Share Price</td>
<td>52 week range $0.023 – 0.095/sh</td>
</tr>
<tr>
<td>Share Register</td>
<td>40% Top 30, High Net Worth Investors</td>
</tr>
</tbody>
</table>

### Market Data Graphs

- **1 YEAR Share price chart**
- **4 YEAR Share price chart**
Lithium Producers Recently Uplifted

Developers yet to rise

Lake $50m vs Peers $80-200m market cap

Trading at 4% NPV<sub>8</sub> vs Peers 10-40% NPV<sub>8</sub>

Research: LKE website

Note: Any perceived relationship between market value of explorers/developers versus producers should not be made.

Source: ASX / TSX / NYSE company disclosures; SEDAR; Bloomberg; Company sources: 6 October 2020
Clean High Purity Lithium - Unique Proposition.

- New Clean Technology for High Purity Lithium – Growing need

- Responsibly Sourced & Sustainable - Growing demand from EV makers, EU guidelines – Enables a clean future; One of few new sustainable lithium suppliers

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

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### Appendix - PFS

**PFS - Kachi.**

Compelling Economics; High EBITDA Margin
Cost Competitive; High Value Product

<table>
<thead>
<tr>
<th>Key Financial Parameters</th>
<th>Values</th>
</tr>
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<tbody>
<tr>
<td>NPV$_8$ (NPV @ 8% discount rate) Pre-tax</td>
<td>US$1,052 million (A$1,660 million)*</td>
</tr>
<tr>
<td>NPV$_8$ (NPV @ 8% discount rate) Post-tax</td>
<td>US$748 million (A$1,180 million)*</td>
</tr>
<tr>
<td>IRR pre-tax</td>
<td>25%</td>
</tr>
<tr>
<td>IRR post-tax</td>
<td>22%</td>
</tr>
<tr>
<td>EBITDA, annual</td>
<td>US$155 million (A$245 million)*</td>
</tr>
<tr>
<td>EBITDA margin</td>
<td>55%</td>
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<thead>
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</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>
</table>

Note: Results based on PFS Study Assumptions  
* Assuming conservative US$11,000/t lithium carbonate CIF future price.  
** Based on Indicated Resource 1.0Mt @290mg/L lithium

Kachi Lithium brine Project.

## Kachi Lithium Brine Project

### JORC Code 2012 Edition

<table>
<thead>
<tr>
<th></th>
<th>Indicated</th>
<th>Inferred</th>
<th>Total Resource</th>
</tr>
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<tbody>
<tr>
<td>Area, km²</td>
<td>17.1</td>
<td>158.3</td>
<td>175.4</td>
</tr>
<tr>
<td>Aquifer volume, km³</td>
<td>6</td>
<td>41</td>
<td>47</td>
</tr>
<tr>
<td>Brine volume, km³</td>
<td>0.65</td>
<td>3.2</td>
<td>3.8</td>
</tr>
<tr>
<td>Mean drainable porosity %</td>
<td>10.9</td>
<td>7.5</td>
<td>7.9</td>
</tr>
<tr>
<td>Element</td>
<td>Li</td>
<td>K</td>
<td>Li</td>
</tr>
<tr>
<td>Weighted mean concentration, mg/L</td>
<td>289</td>
<td>5,880</td>
<td>209</td>
</tr>
<tr>
<td>Resource, tonnes</td>
<td>188,000</td>
<td>3,500,000</td>
<td>638,000</td>
</tr>
<tr>
<td>Lithium Carbonate Equivalent (LCE), tonnes</td>
<td><strong>1,005,000</strong></td>
<td>3,394,000</td>
<td><strong>4,400,000</strong></td>
</tr>
<tr>
<td>Potassium Chloride, tonnes</td>
<td>6,705,000</td>
<td>24,000,000</td>
<td>30,700,000</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.

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**Table 1: Report – JORC Code 2012**

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### Appendix

- *Appendix – Table 1 Report – JORC Code 2012*

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### JORC Code 2012

- The Table 1 Report – JORC Code 2012 provides a framework for reporting mineral resources and ore reserves.

### Appendix

- The Appendix includes additional details and supporting information to complement the JORC Code 2012 reporting guidelines.

### Table 1 Report – JORC Code 2012

- The Table 1 Report – JORC Code 2012 outlines the specific requirements and guidelines for reporting on mineral resources and ore reserves under the JORC Code 2012.