CLEAN HIGH PURITY LITHIUM

Efficient Clean Technology

Steve Promnitz - Managing Director
8 December 2020      Battery Week
Disclaimer

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Forward Looking Statements

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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.
Key Demands: Cathode/Battery Maker & EV Demand

• **#1 High Purity Battery Materials - to avoid performance issues** – Low impurities are being sought in battery materials to ensure reliable battery performance.
  - High quality provided consistently and scalable as demand increases.

• **#2 Responsibly Sourced, Traceable, Sustainable Battery Materials** - With transition to electric vehicles from fossil fuel vehicles, demand for more sustainable battery materials is critical. Smaller CO2, water, physical, energy footprint.

• **#3 Low Cost Structure** - To deliver affordable batteries for electric vehicles.
Solution to EV & Cathode/Battery Maker Demand

Twin Demand – Consistently high purity & more sustainable

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• #2 Responsibly Sourced, Traceable, Sustainable Battery Materials - With transition to electric vehicles from fossil fuel vehicles, demand for more sustainable battery materials is critical. Smaller CO2, water, physical, energy footprint.

• #3 Low Cost Structure - To deliver affordable batteries for electric vehicles

• Lake/Lilac Solution – High purity/low impurity consistently; Cost Competitive; Scalable; Small environmental footprint; Returns 99% brine to source; Low water usage
Clean Technology – No Mining – High Purity

• **Clean Technology – Direct Extraction by Partner, Lilac Solutions** – Efficient lithium separation from brine; backed by Bill Gates-led Breakthrough Energy fund

• **High Purity Lithium** - 99.97% purity battery quality lithium carbonate: Kachi Project

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

• **Demonstrated Path to Production – Kachi Project**
  Successful pilot plant module; Small scale-up to production; Cost-competitive; Large project

• **Major Discount to Project Value**: Trading at 2-4% of NPV vs 10-40% of peers
Why High Purity? Growing Demand

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)
- 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

Operating Cost Curve ($/tpa LCE, 2020 estimates)

- Brine
- Hardrock

Lithium Carbonate Pricing Range

<table>
<thead>
<tr>
<th>Chemical Component</th>
<th>Actual (wt%)</th>
<th>Target</th>
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<tbody>
<tr>
<td>Lithium (Li)</td>
<td>99.97</td>
<td>99.5 Min</td>
</tr>
<tr>
<td>Sodium (Na)</td>
<td>0.0011</td>
<td>0.025 Max</td>
</tr>
<tr>
<td>Magnesium (Mg)</td>
<td>&lt;0.001</td>
<td>0.008 Max</td>
</tr>
<tr>
<td>Calcium (Ca)</td>
<td>&lt;0.001</td>
<td>0.005 Max</td>
</tr>
<tr>
<td>Potassium (K)</td>
<td>0.0049</td>
<td>0.005 Max</td>
</tr>
<tr>
<td>Sulphur (S)</td>
<td>&lt;0.01</td>
<td>0.01 SO4 Max</td>
</tr>
<tr>
<td>Aluminium (Al)</td>
<td>&lt;0.001</td>
<td>0.001 Max</td>
</tr>
<tr>
<td>Iron (Fe)</td>
<td>&lt;0.001</td>
<td>0.001 Max</td>
</tr>
<tr>
<td>Silicon (Si)</td>
<td>&lt;0.001 *</td>
<td>0.005 Max</td>
</tr>
<tr>
<td>Boron (B)</td>
<td>&lt;0.001</td>
<td>0.005 Max</td>
</tr>
</tbody>
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Source: LKE announcements 20/10/2020, 14/01/2020
Why Sustainable Lithium? 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 - Delivers a solution for EV & battery demand – 1. High purity battery materials to avoid performance issues; 2. Battery materials sourced more responsibly and sustainable

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

- Growth in ESG Investing (Environmental Social Governance) – ESG investment is focus of 33% of all US funds under management in Nov 2020
Sustainable Lithium.

ESG Targets for the Future – EU, UN

EU
1. CLIMATE CHANGE MITIGATION
2. CLIMATE CHANGE ADAPTATION
3. SUSTAINABLE AND PROTECTION OF WATER AND MARINE RESOURCES

UN
5. GENDER EQUALITY
8. DECENT WORK AND ECONOMIC GROWTH
9. INDUSTRY INNOVATION AND INFRASTRUCTURE

7. AFFORDABLE AND CLEAN ENERGY
12. RESPONSIBLE CONSUMPTION AND PRODUCTION
13. CLIMATE ACTION

UNGP
United Nations Guiding Principles on Business and Human Rights

SDGs
Sustainable Development Goals
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

ION EXCHANGE TANK

BRINE RETURNED WITHOUT CHANGES EXCEPT LITHIUM REMOVAL

30-60,000 PPM LI CONCENTRATE

LITHIUM CARBONATE PLANT AND/OR LITHIUM HYDROXIDE PLANT

BRINE RESOURCE
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
High Purity Lithium Process – Simple

- Pumping Brines - Kachi
- Direct Extraction Lithium Chloride – Lilac Pilot Plant Module
- Lithium Carbonate - Hazen
- Cathode/ Battery - Novonix
De-Risked Processing; Simple Production Scale-up

Direct Extraction Lithium – Lilac Pilot Plant Module

Pilot to Production

Pilot
1-2 modules

Production Scale
50+ modules

Modules here are not an example of the actual modules
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? 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
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 - Process underway

Novonix - battery technology leader (ASX:NVX; OTCQX:NVNXF)
Tier 1 firms
- Panasonic, CATL, Samsung, SK, LG Chem, Bosch, Honda, 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 Tier-1 qualified as battery quality
Only 50-60% of lithium production is battery quality
Strengthens Lake’s quality and ESG benefits
# Production Timeline

<table>
<thead>
<tr>
<th>2016-19</th>
<th>2022-2023</th>
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<tbody>
<tr>
<td><strong>Large Lease Area Pegged in 2016</strong></td>
<td><strong>Kachi – Production</strong></td>
</tr>
<tr>
<td><strong>Kachi – Large new discovery; major resource</strong></td>
<td><strong>Kachi – 25,500tpa LCE; Capex US$540m</strong></td>
</tr>
<tr>
<td><strong>Kachi – PFS commenced; Pilot plant initiated</strong></td>
<td>Phased expansion from 10,000tpa LCE</td>
</tr>
<tr>
<td><strong>Direct Extraction method – Testing</strong></td>
<td>Capex Reduced</td>
</tr>
<tr>
<td><strong>Cauchari – extended high grades; discovery</strong></td>
<td>Olaroz, Cauchari – Drill, Resource, PFS</td>
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<table>
<thead>
<tr>
<th>H1 - 2020</th>
<th>H2 – 2020, H2 - 2021</th>
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<tbody>
<tr>
<td><strong>High purity samples</strong></td>
<td><strong>Kachi samples to battery makers for qualification purposes; testing by Novonix</strong></td>
</tr>
<tr>
<td><strong>Kachi direct extraction pilot plant module – operating</strong></td>
<td><strong>Kachi – offtake and strategic partner discussions</strong></td>
</tr>
<tr>
<td><strong>Kachi PFS (Apr 2020) – Robust economics; cost competitive</strong></td>
<td><strong>Kachi – Initiate DFS, EISA, pilot plant to site</strong></td>
</tr>
<tr>
<td></td>
<td><strong>Complete DFS, approvals; construction finance</strong></td>
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## LAKE RESOURCES (ASX:LKE, OTC:LLKKF)

<table>
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<tr>
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<th>817,128,624</th>
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<tr>
<td>Total Current Shares on Issue</td>
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<table>
<thead>
<tr>
<th>Options Type</th>
<th>Expiry</th>
<th>Quantity</th>
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<tbody>
<tr>
<td>Listed Options (10c)</td>
<td>Jun 2021</td>
<td>52,512,693</td>
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<tr>
<td>Unlisted Options (4.6c)</td>
<td>Oct 2022</td>
<td>18,300,000</td>
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<tr>
<td>Unlisted Options (8c)</td>
<td>Feb 2022</td>
<td>5,555,000</td>
</tr>
<tr>
<td>Unlisted Options (9c)</td>
<td>Jul 2021</td>
<td>15,000,000</td>
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## Market Data

### Market Cap ($A)
- @ $0.077/sh (10 day VWAP, 7 Dec)
- A $62 million
- US$46 million

### Cash ($A)
- 30 Sept 2020
- A$3 million

### Secured debt
- $ 0

### Share Price
- 52 week range
  - $0.023 – 0.095/sh

### Share Register
- 40% Top 30, High Net Worth Investors
Lithium Producers Recently Uplifted

Developers yet to rise
Lake $50m vs Peers $80-200m market cap
Trading at 4%NPV₈ vs Peers 10-40% NPV₈

Lake Resources LKE
vs Standard (SLL) Direct Extraction USA
vs Lithium Americas (LAC) Pre-Production Argentina
vs Neo Lithium (NLC) Development Argentina

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: 25 November 2020
Clean High Purity Lithium - Unique Proposition.

- **New Clean Technology for High Purity Lithium** – Growing need

- **Responsibly Sourced & Sustainable** - Lake uniquely positioned to provide what EV / battery makers want - high quality battery materials more responsibly sourced without mining. Enables a clean future

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

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