CLEAN HIGH PURITY LITHIUM

Efficient disruptive clean technology

ASX Small and Mid-Cap Conference 2020

Steve Promnitz - Managing Director

9 September 2020

LAKE RESOURCES
CLEANER LITHIUM FOR ELECTRIC WORLD

ASX:LKE FRA:LK1 OTC:LLKKF
 producción de spodumene, pero no se puede garantizar la extensión a cualquier mineralización. Las operaciones Cauchari/Olaroz tienen la potencialidad para extensiones a acuíferos, aunque esto no garantiza la existencia de recursos o la existencia de cantidades económicas de litio. Algunos de los lotes se encuentran dentro y alrededor de las operaciones Orocobre, Orocobre/Advantage Lithium y Ganfeng/Lithium Americas y no se puede garantizar que se descubran recursos o que se descubran cantidades económicas de litio. Algunos lotes están ubicados en propiedades para explotación en la que no se cuenta con suficiente información para determinar la mineralización, por lo que no se puede garantizar que se descubran recursos o que se descubran cantidades económicas de litio.

La información contenida en este resumen es de naturaleza general y se presenta para fines informativos. Lake Resources NL no acepta ninguna responsabilidad o obligación por la información contenida en este resumen. La información referente a proyectos descritos en este rúbrica no es garantizada en su origen, validez, integridad, precisión, o confiabilidad de la información. No se permitirá actuar sobre la información sin consulta con un profesional calificado.

La información contenida en este resumen es una representación precisa de los datos disponibles hasta la fecha, y puede cambiar en el futuro. No se garantizan resultados exactos o continuos. Las declaraciones contenidas en este resumen son efectivas hasta su fecha de emisión.
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** - 99.9% purity battery quality lithium carbonate - Rising demand; ~20% compound growth for lithium to 2028; only 50-60% of production is battery quality

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

• **Path to Commercialisation** – Pilot plant module proven scale-up from lab testing
Direct extraction – Clean Technology

Disruptive – No Evaporation or Mining

New adaptation to known technology in water treatment

- Efficient - lithium removed from brine; no evaporation
- Faster, with higher recoveries
- High purity products – In demand
- Cost competitive and scalable
- Environmentally friendly - Returns brine to source; no change to chemistry
Why Lithium? Growth in Lithium Batteries; Limited New Supply

From 3 to 158 Battery Megafactories in 5 years – Yet underinvestment in supply of battery materials

Megafactory growth but no lithium supply growth (and takes years)

Expansions delayed by majors; Opens door to new producers; Pinch point coming

Supply chain needs billions in investment

EV Investment >US$250Bn

Battery Megafactory Investment >US$200Bn

New Lithium Supply? Need 5-8 times more production by 2028

Source: Benchmark Mineral Intelligence
Why Lithium? Future Demand Growth for Sustainable Supply

Need 18 times more Lithium Production by 2030; 60x by 2050; Growth in sustainable high quality

EU Commission Report – 3 September 2020
“Action Plan on Critical Raw Materials”

Need 18 times more Lithium Production by 2030
~60 times more lithium by 2050;
For e-mobility and renewable energy storage
1st time lithium added to critical raw materials list

US$20-50Bn needs to be invested to meet demand in new battery materials supply in next 10 years

Growth in high quality products
Growth in sustainable, non-mining method

Source: European Commission (mid range selected); Financial Times 31 August 2020; Benchmark Mineral Intelligence
Sustainable Lithium. Responsibly Sourced

Solution for more sustainable lithium 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

- Pilot plant modules demonstrate process works and is scalable –
  Pilot plant modules in California processing Kachi brines

Source: Reuters 12 Feb 2020; Bloomberg 20 Feb 2020; Volkswagen April 2019; Tesla Impact Report 2019;
EU Report: Responsible & Sustainable Sourcing of Battery Raw Materials June 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
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
Direct extraction – Small Environmental Footprint

Lilac Direct Extraction Footprint vs Brine Evaporation Ponds (Atacama) and Hard Rock Mining (Greenbushes)
Prime Location – Next to 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
Kachi PFS - 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 Li₂CO₃

• **Cost Competitive among Brine Producers** –
  Operating cost US$4170/t Li₂CO₃

• **Prime Location** – Large scalable project in world-class region

*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
Lithium Carbonate Pricing Range

Source: LKE announcements 9/1/2020, 14/01/2020; 10/12/2018
Testing Lake’s clean lithium in Batteries – Novonix
State-of-the-art battery testing equipment

Novonix - leader in battery technology.
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
Strengthens Lake’s quality and ESG benefits
Production Timeline.

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

**H2 – 2020, H1 - 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
Experienced.

Lake has extensive development experience – both at the board level and local management.

Steve Promnitz
MANAGING DIRECTOR
Extensive project management experience in South America – geologist and finance experience – with major companies (Rio, Citi) and mid-tiers.

Stu Crow
CHAIRMAN NON-EXEC
More than 25 years of experience (numerous public companies) and in financial services.

Nick Lindsay
NON-EXEC DIRECTOR
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 South America.

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.
## LAKE RESOURCES (ASX:LKE, OTC:LLKKF)

<table>
<thead>
<tr>
<th>Description</th>
<th>Quantity</th>
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</thead>
<tbody>
<tr>
<td>Total Current Shares on Issue</td>
<td>777,128,624</td>
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</tbody>
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**Listed Options**
- 10c: Jun 2021 Expiry, 52,512,693 shares
- 4.6c: Oct 2022 Expiry, 18,300,000 shares
- 8c: Feb 2022 Expiry, 5,555,000 shares
- 9c: Jul 2021 Expiry, 15,000,000 shares

**Unlisted Options**
- 4.6c: Oct 2022 Expiry, 52,512,693 shares
- 8c: Feb 2022 Expiry, 18,300,000 shares
- 9c: Jul 2021 Expiry, 5,555,000 shares

### Market Data

<table>
<thead>
<tr>
<th>Description</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Market Cap ($A)</td>
<td>A $26 million</td>
</tr>
<tr>
<td></td>
<td>US$19 million</td>
</tr>
<tr>
<td>Cash ($A)</td>
<td>A$2.5 million</td>
</tr>
<tr>
<td>Secured debt</td>
<td>$0</td>
</tr>
<tr>
<td>Share Price 52 week range</td>
<td>$0.023 – 0.10/sh</td>
</tr>
<tr>
<td>Share Register Top 30, High Net</td>
<td>40% Top 30, High Net</td>
</tr>
<tr>
<td>Investors</td>
<td>Worth Investors</td>
</tr>
</tbody>
</table>
Orior Capital – Lake ‘Incredibly Undervalued’

- **Lake Undervalued vs Peers** – Robust financial metrics, advantages of direct extraction & lithium outlook: Lake trading <2% NPV vs peers trading at around 20%; valuation of **29c per share**

- **Compelling, Cash-Generative Project** – Kachi to generate EBITDA US$155m pa and EBITDA margin 55%, based on conservative lithium carbonate price of US$11,000/t

- **Significant and Sustainable Competitive Advantages** – Energy storage sector is increasingly demanding low impurities and product consistency

- **It’s Not About Grade** – In industrial chemistry, ‘low impurities’ is king and Kachi delivers

- **Supply-Side Constraints** – Lithium demand rising as EV revolution continues, yet projects suffering cutbacks or delays; evaporation pond projects coming under environmental scrutiny

*Note: Refer Orior Capital research report 26 May 2020, available at Lake’s website*
Lithium Producers Recently Uplifted

Developers yet to rise
Lake $27m vs Peers $50-120m market cap
Trading at <2%NPV\textsubscript{8} vs Peers 10-15% NPV\textsubscript{8}

Research: LKE website

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

Source: ASX / TSX / NYSE company disclosures; SEDAR; Bloomberg; Company sources: 31 August 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
- 21\textsuperscript{st} Century Solution to Batteries for EV’s – Lake’s clean lithium being tested in latest batteries

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steve@lakeresources.com.au  +61 2 9299 9690
## 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>
</thead>
<tbody>
<tr>
<td>$\text{NPV}_8$ (NPV @ 8% discount rate) Pre-tax</td>
<td>US$1,052 million (A$1,660 million)*</td>
</tr>
<tr>
<td>$\text{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>62%</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>
</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.**

<table>
<thead>
<tr>
<th>KACHI LITHIUM BRINE PROJECT</th>
<th>MINERAL RESOURCE ESTIMATE</th>
</tr>
</thead>
<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>
</tr>
<tr>
<td>Weighted mean concentration, mg/L</td>
<td>289</td>
</tr>
<tr>
<td>Resource, tonnes</td>
<td>188,000</td>
</tr>
<tr>
<td>Lithium Carbonate Equivalent (LCE), tonnes</td>
<td>1,005,000</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.

### JORC Code 2012

<table>
<thead>
<tr>
<th>JORC Code</th>
<th>Details</th>
</tr>
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<tbody>
<tr>
<td>2012</td>
<td>Table 1 Report – JORC Code 2012.</td>
</tr>
<tr>
<td>ASX: LKE</td>
<td>SLIDE / 24</td>
</tr>
</tbody>
</table>

### Table 1: Resource and Reserve (measured) (ppm)

<table>
<thead>
<tr>
<th>Material</th>
<th>Resource Type</th>
<th>Grade</th>
<th>Cut Off (ppm)</th>
<th>Measured/Indicated</th>
<th>Inferred</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lithium</td>
<td>Measured</td>
<td>500</td>
<td>100</td>
<td>100,000</td>
<td>50,000</td>
</tr>
<tr>
<td></td>
<td>Indicated</td>
<td>1000</td>
<td>500</td>
<td>50,000</td>
<td>25,000</td>
</tr>
<tr>
<td></td>
<td>Inferred</td>
<td>2000</td>
<td>1000</td>
<td>25,000</td>
<td>12,500</td>
</tr>
</tbody>
</table>

### Notes

- The table is based on the JORC Code 2012 standards.
- Lithium grades are reported as ppm.
- The resource categories are Measured, Indicated, and Inferred.
- The cut-off grades are used to classify the resource categories.
- The resource categories are based on the inferred cut-off grades and grades.
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