CLEAN HIGH PURITY LITHIUM

Efficient Clean Technology

Steve Promnitz - Managing Director

8 December 2020 Battery Week

LAKE RESOURCES

CLEANER LITHIUM FOR AN ELECTRIC WORLD

ASX:LKE FRA:LK1 OTC:LLKKF

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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.

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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

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Solution to EV & Cathode/Battery Maker Demand

Twin Demand – Consistently high purity & more sustainable

- **#1 High Purity Battery Materials - to avoid performance issues** – Low impurities are being sought in battery materials to ensure reliable battery performance
- **#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

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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

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Why High Purity? Growing Demand

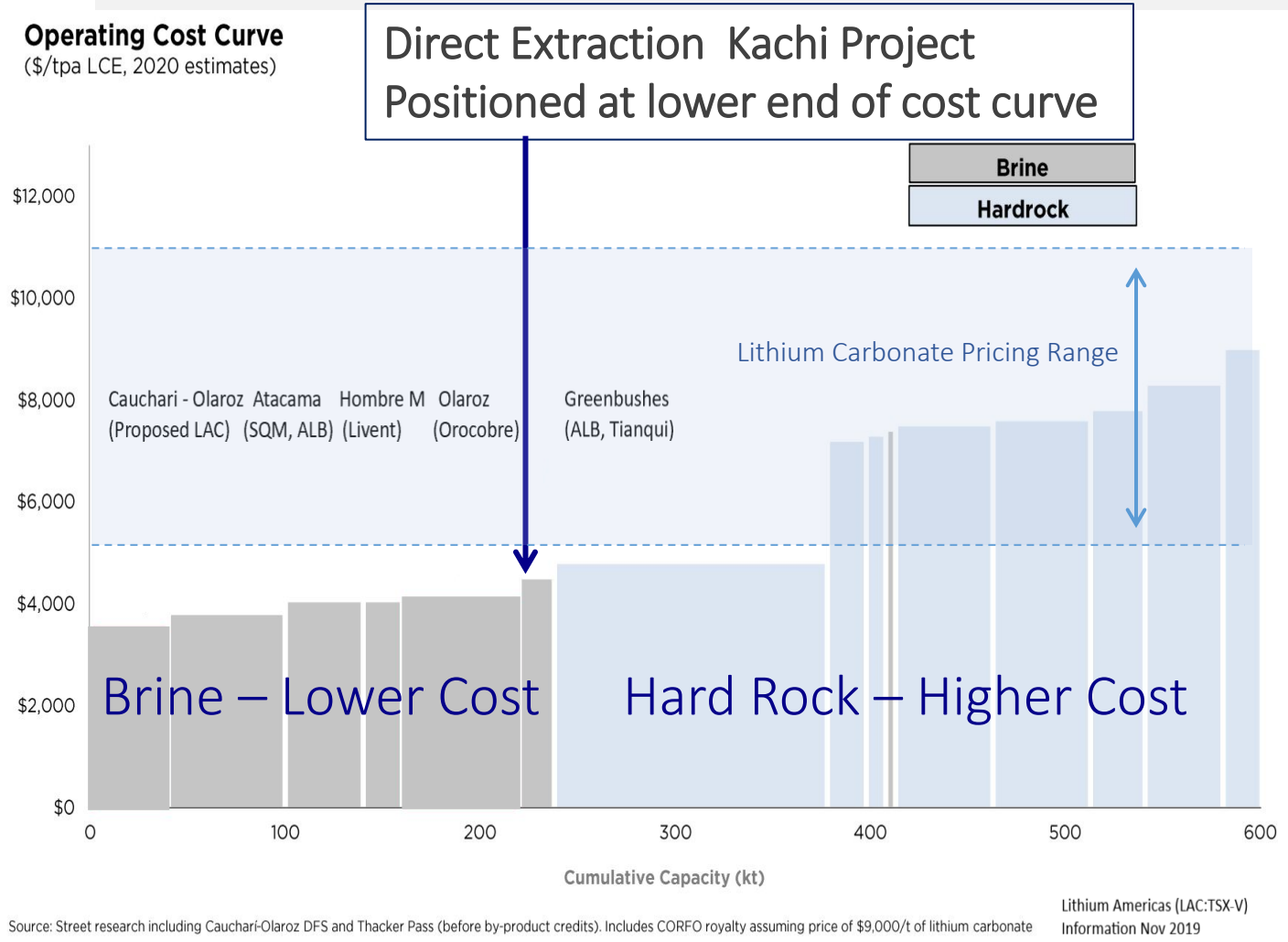
99.97% Purity Lithium Carbonate

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



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
Aluminum (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

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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

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Sustainable Lithium.

ESG Targets for the Future – EU, UN

EU

UN

UNGP
United Nations Guiding Principles on Business and Human Rights

SDGs
Sustainable Development Goals

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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

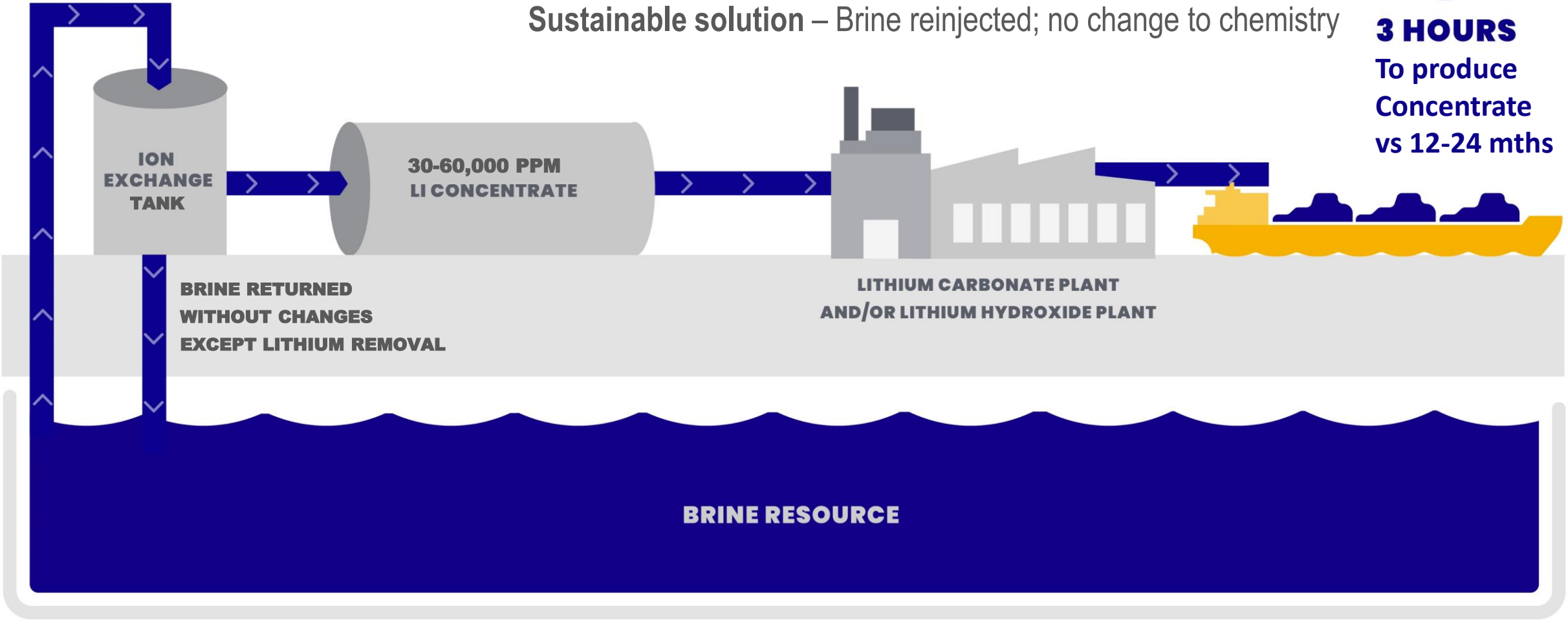
Disruptive Technology (3 hrs to 30-60,000ppm vs 1-2 years)

Saves time and money - Faster production. Recoveries doubled

Lower impurities – Higher purity as only lithium is extracted.

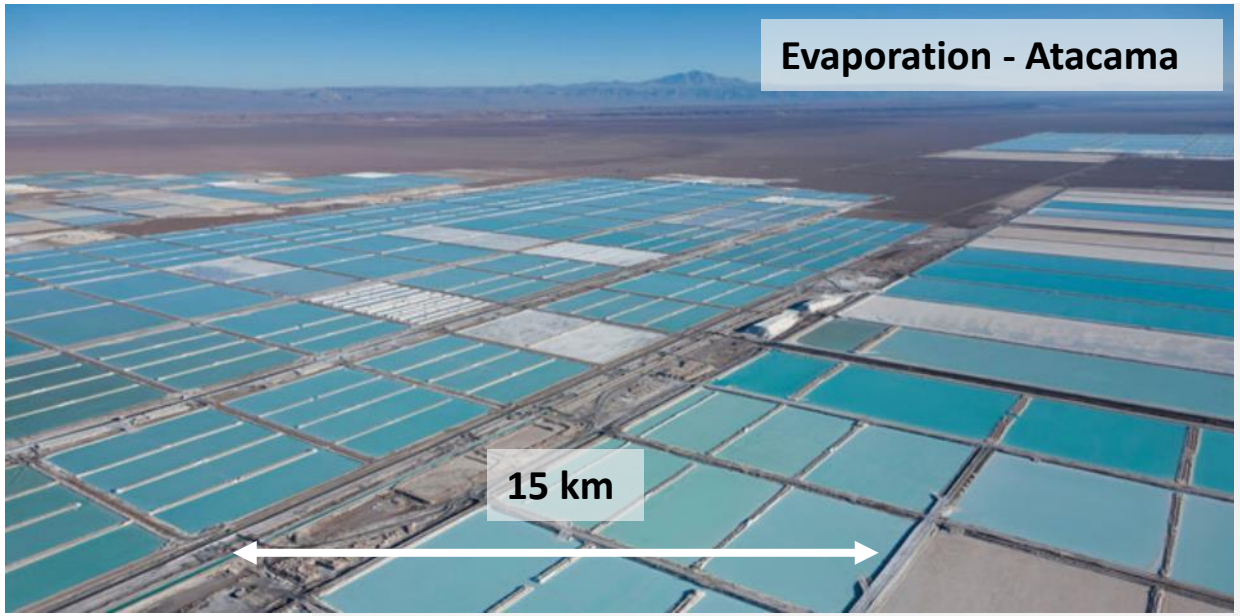
Sustainable solution – Brine reinjected; no change to chemistry

3 HOURS
To produce Concentrate vs 12-24 mths



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
1-2 modules

Pilot to Production

Direct Extraction Lithium – Lilac Production Scale

Production Scale
50+ modules

Modules here are not an example of the actual modules

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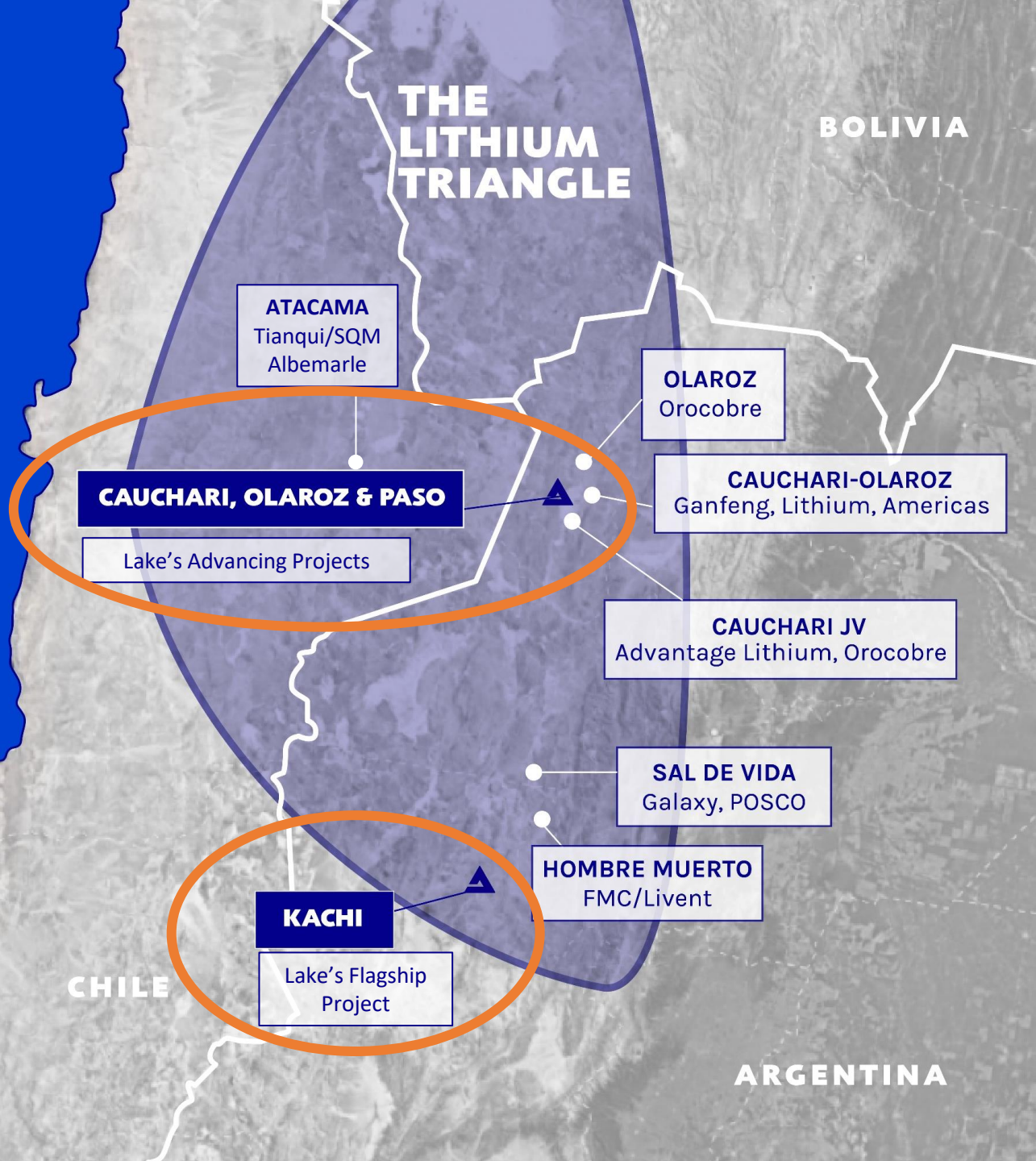
Prime Location – Large Producers.

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



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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

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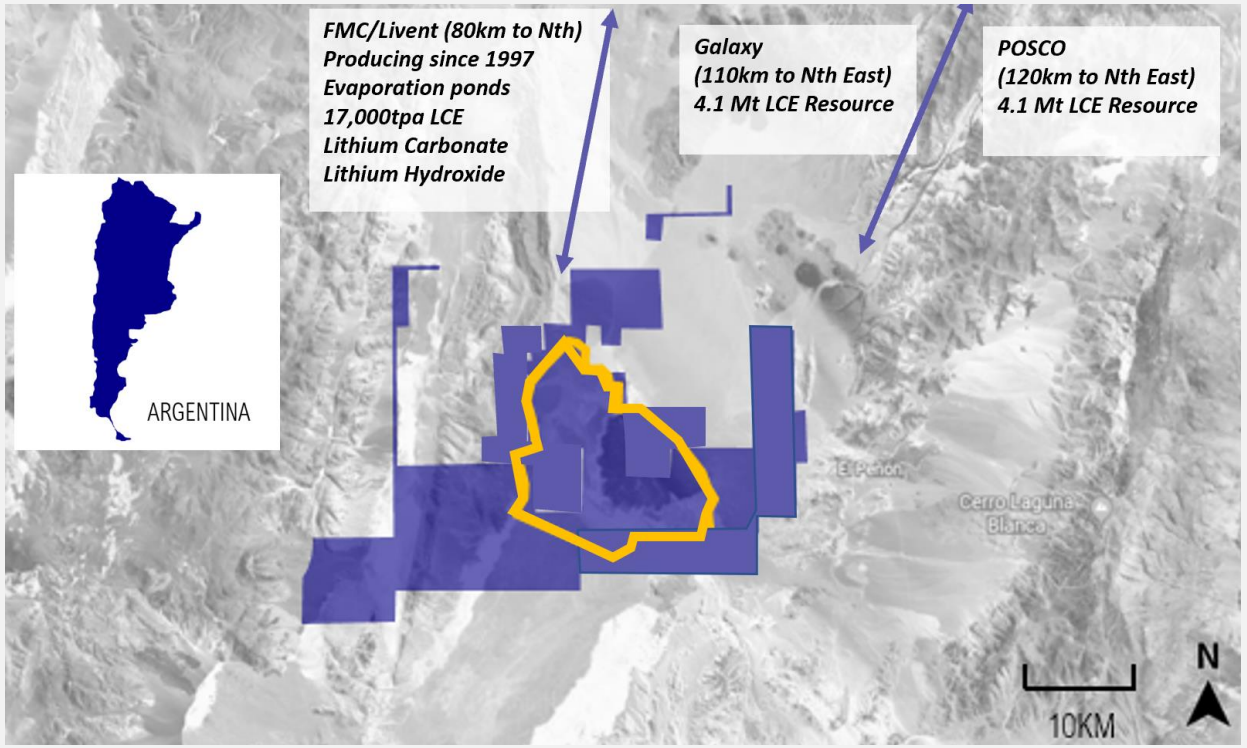
MORENA DEL VALLE MINERALS

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



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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_2CO_3
- **Cost Competitive among Brine Producers** –
  Operating cost US$4170/t Li_2CO_3

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

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*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

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Production Timeline.

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

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

2022-2023

Kachi – Production

Kachi – 25,500tpa LCE; Capex US$540m

Phased expansion from 10,000tpa LCE Capex Reduced

Olaroz, Cauchari – Drill, Resource, PFS

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Total Current Shares on Issue	**817,128,624**

Listed Options (10c)	Jun 2021 Expiry	52,512,693
Unlisted Options (4.6c)	Oct 2022 Expiry	18,300,000
Unlisted Options (8c)	Feb 2022 Expiry	5,555,000
Unlisted Options (9c)	Jul 2021 Expiry	15,000,000

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	

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Lithium Producers Recently Uplifted

Developers yet to rise

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

Trading at 4%NPV_8 vs Peers 10-40% NPV_8

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 November2020

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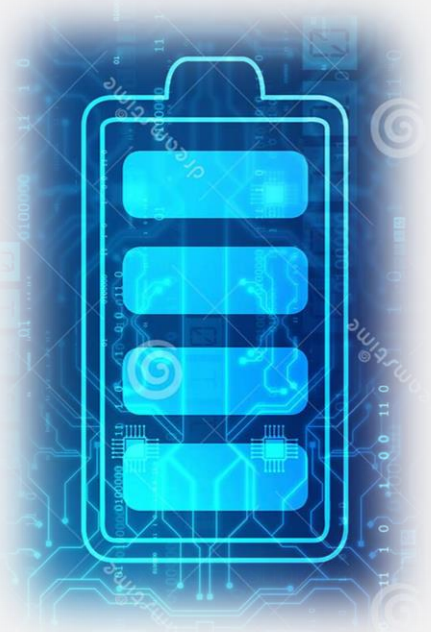
Clean High Purity Lithium - Unique Proposition.

- **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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