

CLEANER LITHIUM ELECTRIC WORLD

QUARTERLY REPORT ENDING 31 DECEMBER 2020 LAKE RESOURCES NL ASX:LKE OTC:LLKKF

25 January 2021

Lake Resources N.L. ASX:LKE OTC:LLKKF ABN 49 079 471 980

Shares on Issue: 1,006,694,524

Options Listed: 52,512,693 (10c, 15 Jun'21)

Options Unlisted: 15,000,000 (9c, Jul'21) 1,000,000 (16.5c, Jan'23)

Options subject to shareholder approval 62,500,000 (30c, 2 years) 11,250,000 (30c, 2 years)

Market Capitalisation: A\$165 million (@16.5c) [US\$127 million]

Share Price Range: A\$0.022 – 0.235 (12mth)

Cash (31 Dec2020): A\$2 million Cash (25 Jan 2021): A\$25 million (in cash and commitments)

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LAKE RESOURCES NL

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HIGHLIGHTS

- Kachi Project Definitive Feasibility Study (DFS) formally commenced. Dr Nicholas Lindsay will assume the role as Technical Director
- High purity 99.97% battery quality lithium carbonate produced by direct extraction from Lake's Kachi brines, being processed into lithium-ion battery test cells by Novonix.
- Company raised \$20 million and is well funded through to construction finance.
- OTC listing OTC:LLKKF available for real-time trading and settlement.

Summary:

Lake has demonstrated that direct lithium extraction (DLE), using the Lilac Solutions process, can produce high purity lithium carbonate at pilot scale in a cost competitive way with the lithium-bearing brine from Lake's Kachi project.

This offers an responsibly sourced and sustainable solution for the battery materials supply chain at the forefront of the global clean energy revolution. Brine can be reinjected without changing the brine chemistry once the lithium has been removed, limiting water issues in the arid environment where they occur.

Lake's ambition is to produce the cleanest battery quality lithium carbonate at scale for use in the accelerating battery and electric vehicle (EV) market.







LAKE RESOURCES N.L. QUARTERLY REPORT ENDING 31 DECEMBER 2020

Summary

Lake Resources NL (ASX:LKE OTC:LLKKF) is a lithium developer utilising clean, direct extraction technology for the development of sustainable, high purity lithium products from its flagship Kachi Project, containing a total resource of 4.4 million tonnes LCE (Lithium Carbonate Equivalent), as well as three other lithium brine projects in Argentina (see ASX announcement 27 November 2018). The projects are in a prime location within the Lithium Triangle alongside all 5 major lithium producers, where 40% of the world's lithium is produced at the lowest cost. Lake owns over 220,000 hectares (~550,000 acres) of leases, including one hard rock project.

High quality lithium chloride solution was efficiently produced in mid-2020 from Kachi brine by direct lithium extraction processing (DLE) at Lilac Solutions pilot plant, based in Oakland, California. The solution was converted to high quality, low impurity lithium carbonate (99.97% Li₂CO₃) by an independent laboratory, Hazen Research. This high quality lithium carbonate is suitable for the lithium battery market (refer ASX announcement 20 October 2020 and 9 January 2020) as a highly attractive product where low impurities are a key factor in determining battery quality. Further, it will enable Lake Resources to be an efficient, responsibly-sourced, environmentally friendly and cost competitive supplier of high-purity lithium carbonate.

OPERATIONS

Kachi Lithium Brine Project - Catamarca Province, Argentina

Summary

Lake Resources' 100%-owned Kachi Lithium Brine Project in Catamarca province, NW Argentina, covers 39 granted mining leases (74,380 hectares), centred around a previously undrilled salt lake within a large lithium brine-bearing basin. Kachi is one of the few salt lakes in Argentina with substantial proven lithium brines controlled by a single owner. The project is located at about 3000 metres altitude, south of Livent's Hombre Muerto Lithium brine operation (NYSE:LTHM) which is Argentina's longest operating lithium brine project.

Lake aims to bring the project to production by using the efficient, low cost-competitive direct extraction technology from Lake's technology partner, Lilac Solutions Inc, in California. Lilac has successfully produced high purity lithium chloride eluate from Kachi Project brine samples using its proprietary ion-exchange direct lithium extraction method at pilot plant module scale in California (refer ASX announcement 3 July 2020). Samples of this lithium chloride were further processed into high purity 99.97% lithium carbonate by an independent laboratory, Hazen Research Inc, in Colorado (refer ASX release 6 August 2020; 20 October 2020). Hazen continues to produce lithium carbonate samples for Lake.

Pricing in the lithium carbonate market is largely determined by purity, and the level and type of impurities. The high purity results indicate premium pricing potential, higher than previously envisaged. The Pre-Feasibility Study (PFS) (refer ASX announcement 30 April 2020) was based on achieving 99.9% lithium carbonate and a fixed selling price of US\$11,000/t.



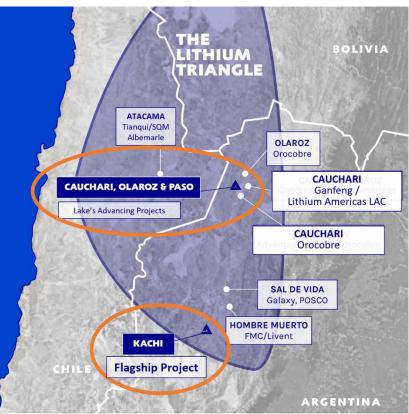


Figure 1: Location of Lake projects in NW Argentina.

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
Strontium (Sr)	0.0018	Uncertain
Copper	<0.001	0.002 Max

Table 1: Analytical results of lithium carbonate produced by Hazen Research Inc from lithium chlorideproduced from the Lilac's pilot module using the direct extraction ion exchange process which processed KachiLithium Brine Project brines.

Definitive Feasibility Study (DFS)

The Definitive Feasibility Study (DFS) was formally commenced for the Kachi Lithium Brine Project, with the appointment of Hatch as the lead consultant.

This builds upon the compelling and robust Pre-Feasibility Study (PFS) announced on 30 April 2020, into the technical and economic viability of Lake's Kachi Lithium Brine Project in Catamarca, Argentina, based on Lilac's sustainable direct lithium extraction process.



A long-life (25 years), low cost operation was demonstrated with annual production target of 25,500 tonnes of battery grade lithium carbonate by direct extraction using Lilac's technology, based on the Indicated Resource of 1.0 million tonnes LCE at 290 mg/L lithium (22% of current total resource).

A post-tax NPV₈ of US\$748 million (A\$1,180m) and IRR of 22% was generated in the PFS. A high margin operation was shown with an EBITDA of US\$155 million (A\$245m) in first full year of production, and an operating margin of 62%, using forecast of US\$11,000/t Li₂CO₃ CIF Asia. A competitive capital cost (capex) estimate of US\$544 million was estimated, including contingency, and operating cost (opex) of US\$4178/tonne Li₂CO₃.

The DFS is an important milestone in the development of the Kachi Lithium Brine Project as a sustainable and commercially successful producer of high quality lithium product for the rapidly growing battery market.

Associated work streams to run in parallel with the DFS include the environmental and social impact study (ESIA), continued community engagement, and a demonstration plant to be commissioned on-site later in 2021.

To manage the DFS and related work streams, the board of Lake Resources is pleased to announce that it has appointed Dr Nicholas Lindsay as Technical Director. Previously a Non-Executive Director of Lake Resources, Dr Lindsay is experienced in feasibility studies in South America, and is confidently expected to deliver the Kachi DFS by Q1 2022.

Testing High Purity Lithium in Batteries by Novonix

High purity lithium carbonate samples have been sent to Novonix Battery Technology Solutions, which is a subsidiary of Novonix Limited (ASX:NVX, OTCQX:NVNXF). It is a Nova Scotia-based independent testing and development laboratory used by recognised battery makers, including CATL, Panasonic, Apple and Dyson.

Lake's high purity lithium carbonate will be tested together with commercial battery cathode precursor materials in NMC622 batteries (refer ASX announcement 27 August 2020 and 26 November 2020). Using Novonix's pilot cell line and proprietary advanced diagnostic tools, the performance of Lake's high purity, lithium product will be evaluated for conformity with lithium-ion battery industry standards. Significantly, this data will allow potential users and off-takers of Lake's product to make direct and relevant comparisons of its performance to familiar cell chemistries. Testing which will take a minimum of four months, with the first results anticipated in the March quarter 2021.

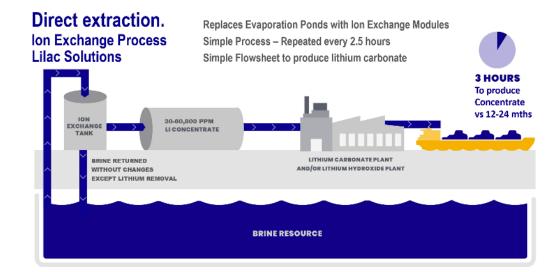




Figure 2. Lilac Solutions direct extraction process for lithium from brines using ion exchange.

Cauchari and Olaroz Lithium Brine Projects - Jujuy Province, Argentina

Lake holds mining leases over 45,000 hectares in two areas in Jujuy Province in NW Argentina, both 100% owned by Lake. Confirmation of multiple high-grade lithium brines over 506m interval (102m to 608m depth) at Lake's 100% owned Cauchari Lithium Brine Project was demonstrated in results returned in late August 2019. This drilling confirmed similar grades and lithium brines extending into Lake's properties from the adjoining Ganfeng/ Lithium Americas Cauchari project (NYSE:LAC), progressing to production in 2021 at 40,000tpa LCE.



Figure 3. Location of Lake's Cauchari results in relation to the Lithium America's production project.

CORPORATE

Cash Position and Financing

Lake held cash of \$2 million as at 31 December 2020 (in AUD, USD and Argentine Pesos) with no debt. The Company held approximately A\$25 million (in cash and commitments) as at 25 January 2021.

The Company is financed for its current plans through to the construction finance phase, including the Definitive Feasibility Study (DFS) for the Kachi project.

On 25 January 2021, Lake had secured commitments in a private placement for A\$20.6 million (before costs) to issue approximately 125 million new ordinary shares at an offer price of \$0.165 per share to institutional investors. Every two new offer shares will have one attached option (approximately 62.5 million options) with an exercise price of A\$0.30 with a two year expiry, subject to shareholder approval ("Placement"). Roth Capital acted as sole Lead Manager and have secured institutional investors in North America, Europe and Australia.

The Company intends to use the net proceeds from the Placement to continue production of high purity lithium carbonate samples, operating the lithium chloride direct extraction pilot plant and completion of the demonstration plant, complete the Definitive Feasibility Study (DFS) and Environmental and Social Impact Study (ESIA) at the Kachi Project, project development works, general exploration across all projects and working capital.

On 19 January 2021, 40 million shares were issued at \$0.0844 per ordinary share in accordance with a Controlled Placement Agreement to raise A\$3.375 million. The Company entered into a Controlled Placement Agreement (the Agreement) in August 2018 with Acuity Capital Pty Ltd and the facility was extended and upsized on 27 November 2020. There are no requirements on the Company to utilise the facility. Unlisted options were converted in December/January including 18,300,000 options with an exercise price of \$0.046 and 5,555,000 options with an exercise price of \$0.08.

AGM



The Annual General Meeting of Shareholders was held on 26 November 2020, with all resolutions passed.

OTC QB:LLKKF – DTC Approval for real time trading and settlement

The Company has secured DTC approval to allow real-time electronic clearing and settlement in the United States for its OTCQB-listed common shares, LLKKF, through the Depository Trust & Clearing Corporation ("DTCC"). The move will simplify trading and enhance liquidity for investors in North America and globally, amid a continued upturn in the lithium sector on the back of the accelerating EV revolution.

The three key advantages of the OTC QB trading of LLKKF comprise:

- 1. Trading and settlement in US dollars (USD);
- 2. Trading in the North American time zone; and

3. LLKKF is the same class of Ordinary Shares as ASX traded stock (ASX:LKE), registered in two different registries.

Capital Structure

Lake has 1,006,694,524 shares on issue as at 25 January 2020. Listed Options include 52,512,693 options with an exercise price of \$0.10 (expiry June 2021). Unlisted options include 15,000,000 options with an exercise price of \$0.09 (expiry July 2021). Approximately 73.75 million unlisted options with an exercise price of \$0.30 with a two year expiry, have been proposed, subject to shareholder approval.

Prior Prospectus Disclosure and Use of Funds:

On 14 and 23 December 2020the company issued prospectuses, the primary purpose of which was to remove any secondary trading restrictions on the on-sale of Shares issued by the Company prior to the Closing Date. Accordingly, the prospectus did not raise capital for expenditure by the company.

Payments to related parties of the entity and their associates:

Amounts paid and accrued to related parties of the entity and their associates during the quarter were \$135,446. These amounts related to normal Directors fees including the salary of the Managing Director and consulting fees for the company's technical director for supervisory work on the commissioning of the pilot plant and the Chairman for ongoing fund raising activities.

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Competent Person's Statement – Kachi Lithium Brine Project

The information contained in this ASX release relating to Exploration Results, Mineral Resource estimates, and the associated Indicated Resource, which underpins the production target utilised 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



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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 announcement of this information in the form and context in which it appears. The information in this announcement is an accurate representation of the available data from the Kachi project.

APPENDIX 1 - JORC CODE, 2012 EDITION, JORC TABLE 1 REPORT: KACHI LITHIUM BRINE PROJECT

Criteria	Section 1 - Sampling Techniques and Data
Sampling techniques	 Brine samples were taken from the diamond drill hole with a bottom of hole spear point during advance and using a straddle packer device to obtain representative samples of the formation fluid by purging a volume of fluid from the isolated interval, to minimize the possibility of contamination by drilling fluid then taking the sample. Low pressure airlift tests are used as well. The fluid used for drilling is brine sourced from the drill hole and the return from drillhole passes back into the excavator dug pit lined to avoid leakage. The brine sample was collected in a clean plastic bottle (1 litre) and filled to the top to minimize air space within the bottle. A duplicate was collected at the same time for storage and submission of duplicates to the laboratory. Each bottle was taped and marked with the sample number. Drill core in the hole was recovered in 1.5 m length core runs in core split tubes to minimize sample disturbance.
Drilling techniques	 Diamond drilling with an internal (triple) tube was used for drilling. The drilling produced cores with variable core recovery, associated with unconsolidated material, in particularly sandy intervals. Recovery of these more friable sediments is more difficult with diamond drilling, as this material can be washed from the core barrel during drilling. Rotary drilling has used 8.5" or 10" tricone bits and has produced drill chips. Brine has been used as drilling fluid for lubrication during drilling.
Drill sample recovery	 Diamond drill core was recovered in 1.5m length intervals in the drilling triple (split) tubes. Appropriate additives were used for hole stability to maximize core recovery. The core recoveries were measured from the cores and compared to the length of each run to calculate the recovery. Chip samples are collected for each metre drilled and stored in segmented plastic boxes for rotary drill holes. Brine samples were collected at discrete depths during the drilling using a double packer over a 1 m interval (to isolate intervals of the sediments and obtain samples from airlifting brine from the sediments within the packer). As the brine (mineralisation) samples are taken from inflows of the brine into the hole (and not from the drill core – which has variable recovery) they are largely independent of the quality (recovery) of the core samples. However, the permeability of the lithologies where samples are taken is related to the rate and potentially lithium grade of brine inflows.
Logging	 Sand, clay, silt, salt and cemented rock types was recovered in a triple tube diamond core drill tube, or as chip samples from rotary drill holes, and examined for geologic logging by a geologist and a photo taken for reference. Diamond holes are logged by a senior geologist who also supervised taking of samples for laboratory porosity analysis as well as additional physical property testing. Logging is both qualitative and quantitative in nature. The relative proportions of different lithologies which have a direct bearing on the overall porosity, contained and potentially extractable brine are noted, as are more qualitative characteristics such as the sedimentary facies and their relationships. When cores are split for sampling they are photographed.
Sub-sampling techniques and sample preparation	 Brine samples were collected by packer and spear sampling methods, over a metre. Low pressure airlift tests are used as well to purge test interval and gauge potential yields. The brine sample was collected in one-litre sample bottles, rinsed and filled with brine. Each bottle was taped and marked with the sample number.
Quality of assay data and laboratory tests	 The Alex Stewart Argentina/Nor lab SA in Palpala, Jujuy, Argentina, is used as the primary laboratory to conduct the assaying of the brine samples collected as part of the sampling program. The SGS laboratory in Buenos Aires has also been used for both primary and check samples. They also analysed blind control samples and duplicates in the analysis chain. The Alex Stewart/Norlab SA laboratory and the SGS laboratory are ISO 9001 and ISO 14001 certified, Lake Resources N.L. (ACN 079 471 980) ASX:LKE OTC:LLKKF 7





	 and are specialized in the chemical analysis of brines and inorganic salts, with experience in this field. This includes the oversight of the experienced Alex Stewart Argentina S.A. laboratory in Mendoza, Argentina, which has been operating for a considerable period. The quality control and analytical procedures used at the Alex Stewart/Norlab SA laboratory or SGS laboratory are considered to be of high quality and comparable to those employed by ISO certified laboratories specializing in analysis of brines and inorganic salts.
Verification of sampling and assaying	 Field duplicates, standards and blanks will be used to monitor potential contamination of samples and the repeatability of analyses. Accuracy, the closeness of measurements to the "true" or accepted value, will be monitored by the insertion of standards, or reference samples, and by check analysis at an independent (or umpire) laboratory. Duplicate samples in the analysis chain were submitted to Alex Stewart/Norlab SA or SGS laboratories as unique samples (blind duplicates) during the process Stable blank samples (distilled water) were used to evaluate potential sample contamination and will be inserted in future to measure any potential cross contamination Samples were analysed for conductivity using a hand-held Hanna pH/EC multiprobe.
Location of data points	 Regular calibration using standard buffers is being undertaken. The diamond drill hole sample sites and rotary drill hole sites were located with a hand-held GPS. The properties are located at the junction of the Argentine POSGAR grid system Zone 2 and Zone 3 (UTM 19) and in WGS84 Zone 19 south.
Data spacing and distribution	• Brine samples were collected over 1m intervals every 6 m intervals within brine producing aquifers, where this was possible.
Orientation of data in relation to geological structure	 The salt lake (salar) deposits that contain lithium-bearing brines generally have sub-horizontal beds and lenses that contain sand, gravel, salt, silt and clay. The vertical diamond drill holes will provide a better understanding of the stratigraphy and the nature of the sub-surface brine bearing aquifers
Sample security	 Samples were transported to the Alex Stewart/Norlab SA laboratory or SGS laboratory for chemical analysis in sealed 1-litre rigid plastic bottles with sample numbers clearly identified. Samples were transported by a trusted member of the team. The samples were moved from the drillhole sample site to secure storage at the camp on a daily basis. All brine sample bottles sent to the laboratory are marked with a unique label not related to the location.
Review (and Audit)	 No audit of data has been conducted to date. However, the CP has been onsite periodically during the programme. The review included drilling practice, geological logging, sampling methodologies for water quality analysis and, physical property testing from drill core, QA/QC control measures and data management. The practices being undertaken were ascertained to be appropriate.
Criteria	Section 2 - Mineral Tenement and Land Tenure Status
Mineral tenement and land tenure status	 The Kachi Lithium Brine project is located approximately 100km south-southwest of Livent' (FMC's) Hombre Muerto lithium operation and 45km south of Antofagasta de la Sierra in Catamarca province of north western Argentina at an elevation of approximately 3,000m asl. The project comprises approximately 70,462 Ha in thirty seven mineral leases (minas) of which five leases (9,445 Ha) are granted for drilling, twenty two leases are granted for initial exploration (44,328 Ha) and ten leases (16,689 Ha) are applications pending granting. The tenements are believed to be in good standing, with statutory payments completed to relevant government departments.
Exploration by other parties	 Marifil Mines Ltd conducted near-surface pit sampling of groundwater at less than 1m depths in 2009. Samples were taken from each hole and analysed at Alex Stewart laboratories in Mendoza Argentina. Results were reported in an NI 43-101 report by J. Ebisch in December 2009 for Marifil Mines Ltd. NRG Metals Inc conducted exploration in adjacent leases under option. Two diamond drillholes intersected lithium bearing brines. The initial drillhole intersected brines from 172-198m and below with best results to date of 15m at 229 mg/L Lithium, reported in December 2017. The second hole, drilled to 400 metres in mid-2018, became blocked at 100 metres and could not be sampled. A VES ground geophysical survey was completed. A NI 43-101 report was released in February 2017. No other exploration results were able to be located.





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	Geology	• The known sediments within the salar consist of salt/halite, clay, sand and silt horizons, accumulated
		in the salar from terrestrial sedimentation and evaporation of brines.
		• Brines within the Salt Lake are formed by solar concentration, interpreted to be combined with warm
		geothermal fluids, with brines hosted within sedimentary units.
		Geology was recorded during the diamond drilling and from chip samples in rotary drill holes.
	Drill hole Information	 15 drill holes completed, totalling 3150 metres with varying depths up to 403 metres.
		• Lithological data was collected from the holes as they were drilled and drill cores or chip samples
		were retrieved. Detailed geological logging of cores is ongoing.
		All drill holes are vertical, (dip -90, azimuth 0 degrees).
	Data aggregation methods	 Assay averages have been provided where multiple sampling occurs in the same sampling interval.
	Relationship between	 Mineralisation interpreted to be horizontally lying and drilling perpendicular to this.
	mineralisation widths	
au	and intercept lengths	
	Diagrams	A drill hole location plan is provided showing the locations of the drill platforms is not presented here
GE		but has been shown in previous statements.
A A	Balanced reporting	• Brine assay results are available from 15 drill holes from the drilling to date, are not presented here
		but have been reported in previous statements.
	Other substantive	 There is no other substantive exploration data available regarding the project.
	exploration data	
	Further work	• Further water well drilling is planned to expand the resource and test pumping rates.
	Criteria	Section 3 – Estimation and Reporting of Mineral Resources
	Database integrity	 Data was transferred directly from laboratory spreadsheets to the database.
	, J,	• Data was checked for transcription errors once in the database to ensure coordinates, assay values,
		and lithological codes were correct.
		 Data was plotted to check the spatial location and relationship to adjoining sample points.
		Duplicates and standards have been used in the assay process.
		Brine assays and porosity test work have been analysed and compared with other publicly available
		information for reasonableness.
		Comparison of original and current datasets were made to ensure no lack of integrity.
	Site visits	The Competent Person visited the site multiple times during the drilling and sampling program
a A		Some improvements to procedures were made during visits by the Competent Person
	Geological Interpretation	• The geological model is continuing to develop. There is a high level of confidence in the
T	- ·	interpretation of the exploration results to date. There are relatively consistent geological units with
		relatively uniform clastic sediments
a		• Any alternative interpretations are restricted to smaller scale variations in sedimentology, related to
		changes in grain size and fine material in units
<u>d</u>		 Data used in the interpretation includes rotary and diamond drilling methods
		• Drilling depths and geology encountered has been used to conceptualise hydro-stratigraphy
		• Sedimentary processes affect the continuity of geology, whereas the concentration of lithium and
		potassium and other elements in the brine is related to water inflows, evaporation and brine
		evolution in the Salt Lake.
	Dimensions	• The lateral extent of the resource has been defined by the boundary of the Company's properties.
		The brine mineralisation subsequently covers 175 km ² .
		• The top of the model coincides with the topography obtained from the Shuttle Radar Topography
		Mission (SRTM). The original elevations were locally adjusted for each borehole collar with the most
		accurate coordinates available. The base of the resource is limited to a 400 m depth. The basement
		rocks underlying the Salt Lake sediments have been intercepted in drilling.
		The resource is defined to a depth of 400 m below surface, with the exploration target immediately
		extending beyond the aerial extent of the resource.
	Estimation and	No grade cutting or capping was applied to the model.
	modelling techniques	No assumptions were made about correlation between variables. Lithium and netassium were

or capping was applied to the model. No assumptions were made about correlation between variables. Lithium and potassium were estimated independently.

The geological interpretation was used to define each geological unit and the property limit was used to enclose the reported resources.



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Moisture	• Moisture content of the cores was not Measured (porosity and density measurements were made), but as brine will be extracted by pumping not mining this is not relevant for the resource estimation.
	Tonnages are estimated as elemental lithium and potassium dissolved in brine.
Cut-off parameters	No cut-off grade has been applied.
Mining factors or assumptions	 The resource has been quoted in terms of brine volume, concentration of dissolved elements, contained lithium and potassium and their products lithium carbonate and potassium chloride. No mining or recovery factors have been applied although the use of the specific yield (drainable porosity) is used to reflect the reasonable prospects for economic extraction with the proposed mining methodology. (Recoveries of 83% lithium have been used in the PFS for the direct processing method) Dilution of brine concentrations may occur over time and typically there are lithium and potassium
	losses in both the storage ponds and processing plant in brine extraction operations. However, potential dilution will be estimated in the groundwater model simulating brine extraction.
	• The conceptual mining method is recovering brine from the Salt Lake via a network of wells, the
	established practice on existing lithium and potash brine projects.
	• Detailed hydrological studies of the lake are being undertaken (groundwater modelling) to define the
	extractable resources and potential extraction rates.
Metallurgical factors or	Lithium carbonate is targeted as the commercial product.
assumptions	• It would be obtained by the brines being subjected to direct lithium extraction (ionic exchange and
	reverse osmosis) to produce a high grade LiCl eluate (30,000 to 60,000 mg/L lithium), which is
	processed in a conventional lithium carbonate plant by reaction with sodium carbonate: LiCl + Na ₂ CO ₃ \rightarrow Li ₂ CO ₃ + NaCl
	 Process work has been undertaken by Lilac Solutions, which is an expert laboratory in the treatment
	of brines by ion exchange.
	• Bench tests include short and long-term tests using ion exchange media and brine from Kachi to
	establish recovery, reagent consumption, and engineering parameters used in the PFS
	 Analyses of solutions by ICP and includes the use of standards
	 The longevity of the ion exchange media has been tested over 1000 cycles, or six months
	• Lithium carbonate of high purity and low impurities has been produced which can be considered equivalent to metallurgical test work) is being carried out on the brine following initial test work.
	• Pilot plant module test-work has commenced using Kachi brine using Lilac Solutions ion exchange
	direct extraction method. 20,000 litres of Kachi brine was being processed by Lilac into concentrated lithium chloride (eluate).
	 Hazen Research Inc has demonstrated the conversion of lithium chloride from the pilot module into larger volumes of high purity lithium carbonate with purity >99.97% with very low levels of impurities.
	 Hazen processed the eluate from Lilac to produce the lithium carbonate sample using reduction of water through evaporation, treatment with sodium hydroxide and soda ash, ion exchange, precipitation, filtering and recrystallization.
	• Due to the high purity of the lithium carbonate, the lithium is reported as 100% minus the sum of impurities. ICP-MS and ICP-AES assays from the Hazen Research lab were used to assess impurities.
	Titration (acidimetric titration with HCl) was performed for total Lithium, run in duplicate and resulted in assays of 100.2 wt% and 100.3 wt.%. This is the accepted assay technique for larger lithium carbonate samples.
	• To ensure consistency of the processing and analysis with industry standards, Dr Nick Welham was consulted and reviewed the results and calculations of purity.
	This work is yet to be integrated into the resource model.
Environmental factors as assumptions	 Impacts of a lithium operation at the Kachi project would include surface disturbance from the installation of extraction/processing facilities and associated infrastructure, accumulation of various salt tailings impoundments and extraction from brine and fresh water aquifers regionally.
	 Environmental management plan for the protection of wetlands, salt lakes, and surrounds.
	 Consultation with communities in the area of influence of the project. Environmental impact analysis on going
Rulk density	 Environmental impact analysis on-going. Density measurements were taken as part of the drill core assessment. This included determining dry.
Bulk density	 Density measurements were taken as part of the drill core assessment. This included determining dry density and particle density as well as field measurements of brine density. Note that no mining is to be carried out as brine is to be extracted by pumping and consequently sediments are not mined No bulk density was applied to the estimates because resources are defined by volume, rather than by tonnage.



	Classification	• The resource has been classified into the two possible resource categories based on confidence in the estimation.
2		• A Measured resource would reflect higher density drilling, with porosity samples from drill cores and well constrained vertical brine sampling in the holes.
	-	• The Indicated resource reflects the higher confidence in the brine sampling in the rotary drilling and lower quality geological control from the drill cuttings.
		• The Inferred resource underlying the Measured and/or Indicated resource reflects the limited drilling to this depth together with the geophysics through the property.
_)	• In the view of the Competent Person the resource classification is believed to adequately reflect the available data and is consistent with the suggestions of Houston et. al., 2011
	Audits or reviews	The Mineral Resource was estimated by the Competent Person.
5	Discussion of relative accuracy/confidence	• An independent estimate of the resource was completed using a nearest neighbour estimate and the comparison of the results with the ordinary kriging estimate is below 0.3% for measured resources and below 3% for indicated resources which is considered to be acceptable.
C		 Univariate statistics for global estimation bias, visual inspection against samples on plans and sections, swath plots in the north, south and vertical directions to detect any spatial bias shows a good agreement between the samples and the ordinary kriging estimates.
	Deferences	

References

Houston, J., Butcher, A., Ehren, P., Evans, K., and Godfrey, L. (2011). The Evaluation of Brine Prospects and the Requirement for Modifications to Filing Standards. Economic Geology. V 106, p 1225-1239.

About Lake Resources NL (ASX:LKE OTC:LLKKF) –

Clean high purity lithium using efficient disruptive clean technology

Lake Resources NL (ASX:LKE, OTC: LLKKF) is a clean lithium developer utilising direct extraction technology for production of sustainable, high purity lithium from its flagship Kachi Project within the Lithium Triangle in Argentina among other projects covering 200,00 ha.

This direct extraction method delivers a solution for two rising demands of electric vehicle batteries – high purity battery materials to avoid performance issues, and more sustainable, responsibly sourced materials.

1. **Clean-Tech**: Efficient, disruptive, cost-competitive technology using well-known water treatment re-engineered for lithium (not mining). Technology partner, Lilac Solutions Inc, supported by Bill Gates led Breakthrough Energy fund and MIT's The Engine fund.

2. **High Purity**: 99.97% purity lithium carbonate samples never previously delivered at scale in a cost competitive manner for a premium price (refer ASX announcement 9 January 2020 and 20 October 2020).

3. Sustainable /ESG: Far smaller environmental footprint than conventional methods, that returns virtually all water (brine) to its source without changing its chemistry, avoiding "water politics" in arid environments for a better outcome for local communities.

4. **Prime Location, Large Projects**: Flagship Kachi project in prime location among low cost producers with a large lease holding (70,000 ha) and expandable resource (4.4 Mt LCE) of which only 20% is used for 25 years production at 25,500tpa (JORC Resource: Indicated 1.0Mt, Inferred 3.4Mt, refer ASX announcement 27 November 2018). Pre-feasibility study by tier 1 engineering firm shows large, long-life low-cost operation (refer ASX announcement 28 April 2020).

An innovative direct extraction technique, based on a well-used ion exchange water treatment method, has been tested for over 18 months in partnership with Lilac Solutions, with a pilot plant module in California operating on Kachi brines and has shown 80-90% recoveries. Battery quality lithium carbonate (99.97% purity) has been produced from Kachi brine samples with very low impurities (refer ASX announcement 20 October 2020). The first samples of high purity (99.97% purity) battery quality lithium carbonate is being tested in a NMC622 battery by Novonix. Hazen will produce further samples for downstream supply chain participants and off-takers.

This method of producing high purity lithium can revolutionise and disrupt the battery materials supply industry as it's scalable, low cost, and delivers a consistent product quality.

Lake's other projects include the Olaroz and Cauchari brine projects, located adjacent to major world class brine projects in production or construction, including Orocobre's Olaroz lithium production and adjoins the impending production of Ganfeng Lithium/Lithium Americas' Cauchari project. Lake's Cauchari project has shown lithium brines over 506m interval with high grades averaging 493 mg/L lithium (117-460m) with up to 540 mg/L lithium. These results are similar to lithium brines in adjoining leases and infer an extension and continuity of these brines into Lake's leases (refer ASX announcements 28 May, 12 June 2019).





For more information on Lake, please visit <u>http://www.lakeresources.com.au/home/</u>

OTAL NUM	BER TENEMENTS:	TOTAL AREA TENEMENTS:				
81		222,136	На			
REF 🖵	TENEMENT NAME			INTEREST -		STATUS
REF -	OLAROZ - CAUCHARI AREA				PROVINCE	STATUS
		2156-D-2016	354	100	huiny	Granted
	Cauchari Bajo I Cauchari Bajo II	2150-D-2016	354	100	Jujuy	Granted
		2157-D-2016	122	100	Jujuy	Granted
	Cauchari Bajo III	2158-D-2016	946	100	Jujuy	Granted
	Cauchari Bajo V				Jujuy	
	Cauchari West I	2160-D-2016	1936	100	Jujuy	Granted
	Olaroz Centro II	2164-D-2016	268	100	Jujuy	Applicati
	Olaroz East II	2168-D-2016	2072	100	Jujuy	Granted
	MASA 12	2234-M-2016	2901	100	Jujuy	Granted
	MASA 13	2235-M-2016	3000	100	Jujuy	Granted
	MASA 14	2236-M-2016	3000	100	Jujuy	Granted
	MASA 15	2237-M-2016	3000	100	Jujuy	Granted
	PASO AREA					
	Paso III	2137-P-2016	2787	100	Jujuy	Granted
	Paso VI	2140-P-2016	2208	100	Jujuy	Granted
	Paso X	2144-P-2016	1833	100	Jujuy	Granted
	MASA 9	2231-M-2016	2978	100	Jujuy	Granted
	MASA 16	2238-M-2016	2114	100	Jujuy	Granted
	MASA 17	2239-M-2016	2891	100	Jujuy	Granted
	MASA 18	2240-M-2016	3000	100	Jujuy	Granted
	MASA 19	2241-M-2016	3000	100	Jujuy	Granted
	MASA 20	2242-M-2016	3000	100	Jujuy	Granted
	MASA 21	2243-M-2016	2815	100	Jujuy	Granted
	MASA 22	2244-M-2016	1460	100	Jujuy	Applicati
	MASA 23	2245-M-2016	1540	100	Jujuy	Applicati
	23 Mining leases	2243-111-2010	47579 Ha	100	Jujuy	Applicati
	CATAMARCA PEGMATITES	S Cateo 52-B-2016	10000	100	Catamarca	In Proces
	Petra II	Cateo 51-B-2016	9523	100	Catamarca	In Proces
	Petra III	Cateo 49-B-2016	9528	100	Catamarca	In Proces
	Petra IV	Cateo 50-B-2016	8939	100	Catamarca	In Proces
	CAT 1 (Petra VIII)	Cateo 93-B-2016	1000	100	Catamarca	In Proces
	CAT 2 (Petra VII)	Cateo 94-B-2016	8475	100	Catamarca	In Proces
	CAT 3 (Petra VI)	Cateo 95-B-2016	10000	100	Catamarca	In Proces
	CAT 4 (Petra V)	Cateo 98-B-2016	10000	100	Catamarca	In Proces
	La Aguada 1	Mina 116-B-2016	2499	100	Catamarca	Granted
	La Aguada 2	Mina 117-B-2016	2950	100	Catamarca	Granted
	La Aguada 3	Mina 99-B-2016	1558	100	Catamarca	In Proces
	La Aguada 4	Mina 173-B-2016	2929	100	Catamarca	Granted
	La Aguada 5	Mina 172-B-2016	2866	100	Catamarca	Granted
	La Aguada 6	Mina 174-B-2016	2999	100	Catamarca	Granted
	La Aguada 7	Mina 137-B-2016	2919	100	Catamarca	Granted
	La Aguada 8	Mina 139-B-2016	1587	100	Catamarca	Granted
	La Aguada 9	Mina 138-B-2016	2607	100	Catamarca	Granted



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OTHER CATAMARCA					
Galan Oeste	43-M-2016	3167	100	Catamarca	Granted
Tornado VII	48-M-2016	6629	100	Catamarca	Granted
2 Mining leases		9796 Ha			

SCHEDULE OF TENEMENTS (Appendix 5B)								
TOTAL NUN	IBER TENEMENTS:	1	TOTAL AREA	TENEMENTS:				
81				222,136	На			
REF 👻	TENEMENT NAME	_ 1	NUMBER	¥	AREA Ha 🔻	INTEREST -	PROVINCE 👻	STATU: 🗸



LAKERESOURCES.COM.AU ASX:LKE FRA:LK1 OTC:LLKKF

CLEANER LITHIUM

39 Mining leases		74382 Ha			
Gold Sand I	238-M-2018	853	100	Catamarca	Granted
Parapeto 3	132-M-2018	1892	100	Catamarca	Granted
Parapeto 2	134-M-2018	1259	100	Catamarca	Granted
Parapeto 1	133-M-2018	2504	100	Catamarca	Granted
Pampa 11	201-M-2018	815	100	Catamarca	Granted
Pampa IV	78-M-2017	2569	100	Catamarca	Granted
Pampa III	130-M-2013	477	100	Catamarca	Granted
Pampa II	128-M-2013	1119	100	Catamarca	Granted
Pampa I	129-S-2013	2312	100	Catamarca	Granted
Morena 15	162-M-2017	2559	100	Catamarca	Granted
Morena 13	79-M-2016	3024	100	Catamarca	Granted
Morena 12	78-M-2016	2704	100	Catamarca	Granted
Morena 9	30-M-2016	2822	100	Catamarca	Granted
Morena 8	77-M-2016	2961	100	Catamarca	Granted
Morena 7	76-M-2016	2805	100	Catamarca	Granted
Morena 6	75-M-2016	1606	100	Catamarca	Granted
Morena 5	97-M-2017	1415	100	Catamarca	Granted
Morena 4	29-M-2019	2968	100	Catamarca	Granted
Morena 3	74-M-2016	3007	100	Catamarca	Granted
Morena 2	73-M-2016	2989	100	Catamarca	Granted
Morena 1	72-M-2016	3025	100	Catamarca	Granted
Maria III	15-M-2016	1396	100	Catamarca	Granted
Maria II	14-M-2016	888	100	Catamarca	Granted
Maria I	140-M-2018	889	100	Catamarca	Granted
Maria Luz	34-M-2017	2425	100	Catamarca	Granted
Irene	28-M-2018	2250	100	Catamarca	Granted
Escondidita	131-M-2018	373	100	Catamarca	Granted
Daniel Armando II	97-M-2016	1388	100	Catamarca	Granted
Daniel Armando	23-M-2016	2116	100	Catamarca	Granted
Divina Victoria I	25-M-2016	1266	100	Catamarca	Granted
Debbie I	21-M-2016	1501	100	Catamarca	Granted
Dona Carmen	24-M-2016	874	100	Catamarca	Granted
Dona Amparo I	22-M-2016	3000	100	Catamarca	Granted
Kachi Inca VI	44-M-2016	110	100	Catamarca	Granted
Kachi Inca V	45-M-2016	305	100	Catamarca	Granteo
Kachi Inca III	47-M-2016	3354	100	Catamarca	Granted
Kachi Inca II	17-M-2016	2823	100	Catamarca	Granteo
Kachi Inca I	16-M-2016	2881	100	Catamarca	Granted
Kachi Inca	13-M-2016	858	100	Catamarca	Granteo

Appendix 5B

Mining exploration entity or oil and gas exploration entity quarterly cash flow report

Name of entity	
LAKE RESOURCES N.L.	
ABN	Quarter ended ("current quarter")

49 079 471 980

31 December 2020

Con	solidated statement of cash flows	Current quarter \$A'000	Year to date (6 months) \$A'000
1.	Cash flows from operating activities		
1.1	Receipts from customers	-	-
1.2	Payments for		
	(a) exploration & evaluation (if expensed)	-	-
	(b) development	-	-
	(c) production	-	-
	(d) staff costs	(139)	(260)
	(e) administration and corporate costs	(529)	(952)
1.3	Dividends received (see note 3)	-	-
1.4	Interest received	-	-
1.5	Interest and other costs of finance paid	-	-
1.6	Income taxes paid	-	-
1.7	Government grants and tax incentives	-	-
1.8	Other (provide details if material)		-
1.9	Net cash from / (used in) operating activities	(668)	(1,212)

2.	Cash flows from investing activities		
2.1	Payments to acquire:		
	(a) entities	-	-
	(b) tenements	-	-
	(c) property, plant and equipment	-	-
	(d) exploration & evaluation (if capitalised)	(1,268)	(1,505)
	(e) investments	-	-
	(f) other non-current assets	-	-

Con	solidated statement of cash flows	Current quarter \$A'000	Year to date (6 months) \$A'000
2.2	Proceeds from the disposal of:	-	-
)	(a) entities	-	-
	(b) tenements	-	-
	(c) property, plant and equipment	-	-
	(d) investments	-	-
	(e) other non-current assets	-	-
2.3	Cash flows from loans to other entities	-	-
2.4	Dividends received (see note 3)	-	-
2.5	Other (provide details if material)	-	-
2.6	Net cash from / (used in) investing activities	(1,268)	(1,505)

3.	Cash flows from financing activities		
3.1	Proceeds from issues of equity securities (excluding convertible debt securities)	-	3,923
3.2	Proceeds from issue of convertible debt securities	-	-
3.3	Proceeds from exercise of options	842	842
3.4	Transaction costs related to issues of equity securities or convertible debt securities	(15)	(190)
3.5	Proceeds from borrowings	-	200
3.6	Repayment of borrowings	-	(200)
3.7	Transaction costs related to loans and borrowings	-	-
3.8	Dividends paid	-	-
3.9	Other (provide details if material)	-	-
3.10	Net cash from / (used in) financing activities	827	4,575

4.	Net increase / (decrease) in cash and cash equivalents for the period		
4.1	Cash and cash equivalents at beginning of period	3,062	55
4.2	Net cash from / (used in) operating activities (item 1.9 above)	(668)	(1213)
4.3	Net cash from / (used in) investing activities (item 2.6 above)	(1,268)	(1,505)
4.4	Net cash from / (used in) financing activities (item 3.10 above)	827	4,575

Con	solidated statement of cash flows	Current quarter \$A'000	Year to date (6 months) \$A'000
4.5	Effect of movement in exchange rates on cash held	73	114
4.6	Cash and cash equivalents at end of period	2,026	2,026

5.	Reconciliation of cash and cash equivalents at the end of the quarter (as shown in the consolidated statement of cash flows) to the related items in the accounts	Current quarter \$A'000	Previous quarter \$A'000
5.1	Bank balances	2,026	3,062
5.2	Call deposits	-	-
5.3	Bank overdrafts	-	-
5.4	Proceeds from SPP held in trust pending issue of shares	-	-
5.5	Cash and cash equivalents at end of quarter (should equal item 4.6 above)	2,026	3,062

6. Payments to related parties of the entity and their associates

6.1 Aggregate amount of payments to related parties and their associates included in item 1

Current quarter \$A'000
135
-

6.2 Aggregate amount of payments to related parties and their associates included in item 2

Note: if any amounts are shown in items 6.1 or 6.2, your quarterly activity report must include a description of, and an explanation for, such payments

7.	Financing facilities
	Note: the term "facility' includes all forms of financing

arrangements available to the entity. Add notes as necessary for an understanding of the sources of finance available to the entity.

- 7.1 Loan facilities
- 7.2 Credit standby arrangements
- 7.3 Other (refer below)
- 7.4 Total financing facilities

Total facility amount at quarter end \$A'000	Amount drawn at quarter end \$A'000
-	-
-	0
10,000	0
10,000	0

7.5 Unused financing facilities available at quarter end

10,000

7.6 Include in the box below a description of each facility above, including the lender, interest rate, maturity date and whether it is secured or unsecured. If any additional financing facilities have been entered into or are proposed to be entered into after quarter end, include a note providing details of those facilities as well.

The Company entered into a Controlled Placement Agreement (the Agreement) in August 2018 with Acuity Capital Pty Ltd. The Agreement provided the Company with up to \$4.5 million of standby capital for a 29-month period from August 2018. On 27 November 2020, the Company announced that it had agreed to extend the Agreement until 31 January 2023 and to an increase in the facility limit to \$10 million. Under the Agreement, the Company retains full control of all aspects of the placement process, having sole discretion as to whether or not to utilise the Agreement, the quantum of issued shares, the minimum issue price of shares and the timing of each placement tranche (if any). There are no requirements on the Company to utilise the Agreement and it may terminate the Agreement at any time, without cost or penalty.

8.	Estimated cash available for future operating activities	\$A'000
8.1	Net cash from / (used in) operating activities (Item 1.9)	(668)
8.2	Capitalised exploration & evaluation (Item 2.1(d))	(1,195)
8.3	Total relevant outgoings (Item 8.1 + Item 8.2)	(1,863)
8.4	Cash and cash equivalents at quarter end (Item 4.6)	2,026
8.5	Unused finance facilities available at quarter end (Item 7.5)	10,000
8.6	Total available funding (Item 8.4 + Item 8.5)	12,026
8.7	Estimated quarters of funding available (Item 8.6 divided by Item 8.3)	6.46

Since the end of the quarter, the Company has raised \$24.1 million in three separate raisings which is intended to fund the Company through the DFS and to the construction phase of the project in 18 - 24 months. The funding activities were advised to ASX on 19 and 25 January 2021.

8.8 If Item 8.7 is less than 2 quarters, please provide answers to the following questions:

1. Does the entity expect that it will continue to have the current level of net operating cash flows for the time being and, if not, why not?

Answer: n/a.

2. Has the entity taken any steps, or does it propose to take any steps, to raise further cash to fund its operations and, if so, what are those steps and how likely does it believe that they will be successful?

Answer: n/a

3. Does the entity expect to be able to continue its operations and to meet its business objectives and, if so, on what basis?

Answer: n/a.

Compliance statement

- This statement has been prepared in accordance with accounting standards and policies which comply with Listing Rule 19.11A.
- 2 This statement gives a true and fair view of the matters disclosed.

Date: 25 January 2021

Authorised by: By the Board (Name of body or officer authorising release – see note 4)

Notes

1

- 1. This quarterly cash flow report and the accompanying activity report provide a basis for informing the market about the entity's activities for the past quarter, how they have been financed and the effect this has had on its cash position. An entity that wishes to disclose additional information over and above the minimum required under the Listing Rules is encouraged to do so.
- 2. If this quarterly cash flow report has been prepared in accordance with Australian Accounting Standards, the definitions in, and provisions of, *AASB 6: Exploration for and Evaluation of Mineral Resources* and *AASB 107: Statement of Cash Flows* apply to this report. If this quarterly cash flow report has been prepared in accordance with other accounting standards agreed by ASX pursuant to Listing Rule 19.11A, the corresponding equivalent standards apply to this report.
- 3. Dividends received may be classified either as cash flows from operating activities or cash flows from investing activities, depending on the accounting policy of the entity.
- 4. If this report has been authorised for release to the market by your board of directors, you can insert here: "By the board". If it has been authorised for release to the market by a committee of your board of directors, you can insert here: "By the [name of board committee eg Audit and Risk Committee]". If it has been authorised for release to the market by a disclosure committee, you can insert here: "By the Disclosure Committee".
- 5. If this report has been authorised for release to the market by your board of directors and you wish to hold yourself out as complying with recommendation 4.2 of the ASX Corporate Governance Council's Corporate Governance Principles and Recommendations, the board should have received a declaration from its CEO and CFO that, in their opinion, the financial records of the entity have been properly maintained, that this report complies with the appropriate accounting standards and gives a true and fair view of the cash flows of the entity, and that their opinion has been formed on the basis of a sound system of risk management and internal control which is operating effectively.