ASX ANNOUNCEMENT

13 January 2020

LARGER VOLUME HIGH PURITY LITHIUM CARBONATE SAMPLES TO BE PRODUCED FOR OFF-TAKERS

- **20,000 litres of brines now being transported to Lilac Solutions ion exchange pilot plant in California and arriving in two weeks.**

- **Larger high purity lithium carbonate samples will be produced from brine samples from Lake's Kachi Lithium Brine Project.**

- **From March, larger volume lithium carbonate samples with very low impurities will be delivered to potential downstream off-takers that have been in ongoing discussions with LKE.**

Lithium explorer and developer **Lake Resources NL (ASX: LKE)** can confirm that larger battery grade lithium carbonate samples with 99.9% purity will be produced from 20,000 litres of brine samples from Lake's Kachi Lithium Brine Project using Lilac Solutions' disruptive technology in California.

Samples will arrive in California in 2 weeks for processing in the pilot plant modules being constructed using Lilac Solutions' direct extraction ion exchange process. The samples have been transported from Kachi and are now en-route to California (see Figs 1,2,3).

Deliveries to downstream groups will occur from March and the larger volumes of lithium carbonate will start the qualification process with off takers and demonstrate the scalability for future production planning.

Lake's Managing Director Steve Promnitz said: "*We are now focused on delivering greater volumes of battery grade lithium carbonate from Kachi brines and the pilot plant modules and this will form the basis for securing binding offtake agreements for the Kachi brine products.*

"Lake has undertaken a considerable amount of business development in the past 24 months to build visibility in the battery and EV sectors. During this time, we have presented our projects and future product to a large number of industry players, which include highly recognized global brands. This work has been considerable and will pay dividends in 2020 as we can now quickly and readily re-engage with off-takers and start the qualification process with lithium carbonate samples of sufficient volume with very low impurities - the critical benchmark in this sector.

"We look forward to reporting back to shareholders when our brines arrive at Lilac's California operations."

Lake aims to produce at Kachi a high quality, low impurity product capable of attracting premium pricing. Lab testing has shown that lithium concentrations of 30-60,000 mg/L lithium can be produced from brines of ~300 mg/L lithium in a few hours using the Lilac process.

The Kachi Project ranks amongst the world's top 10 lithium brine resources, with a maiden resource estimate of 4.4 million tonnes lithium carbonate equivalent (LCE) (Indicated 1.0 Mt and Inferred 3.4 Mt) within a much larger exploration target (refer ASX announcement 27 November 2018).

LAKE RESOURCES NL
Level 5, 126 Phillip Street,
Sydney, NSW 2000
+61 2 9299 9690

LAKERESOURCES.COM.AU
ASX:LKE

A Phase 1 Engineering Study completed in December 2018 showed its potential to have production costs in the lowest cost quartile globally, with high recoveries (80 to 90%) compared to conventional brine operations in South America with typical lithium recoveries below 50%. The Lilac technology could also potentially slash production times to a few hours compared to the lengthy nine to 24-month waiting period for standard evaporation processes to produce a suitable concentrate for processing.

Significantly, Lilac's direct extraction process offers a sustainable solution for Lake Resources when extracting lithium from brine as processed brine is returned to the aquifer once the lithium has been extracted removing the need for traditional evaporation ponds. This addresses increasing interest from electric vehicle makers (OEM's) and battery makers to demonstrate they have access to a sustainable scalable supply chain for raw materials.

Figure 1: Lithium bearing brines being pumped into containers at the Kachi Lithium Brine Project.

Figure 2: Lithium bearing brines being pumped into containers at the Kachi Lithium Brine Project for trucking to port for dispatch to California.

Figure 3: Lithium brines being unloaded at port into containers for shipping.

Chemical Component	Actual (wt%)	Target
Lithium (Li)	99.9	99.5 Min
Sodium (Na)	0.024	0.025 Max
Magnesium (Mg)	<0.001	0.008 Max
Calcium (Ca)	0.0046	0.005 Max
Iron (Fe)	<0.001	0.001 Max
Silicon (Si)	<0.001	0.003 Max
Boron (B)	<0.001	0.005 Max

Table 1: Specifications of lithium carbonate product with 99.9% purity. Very low impurities in Iron (Fe) and Boron (B) from the Kachi Lithium Brine Project using Lilac's direct extraction ion exchange process. Sample preparation methodology is included in Appendix 1 (JORC Table 1).

For further information please contact:
Steve Promnitz, Managing Director
+61 2 9188 7864
steve@lakeresources.com.au

Follow Lake on Twitter: https://twitter.com/Lake_Resources
Follow on LinkedIn: https://www.linkedin.com/company/lake-resources/
Website: http://www.lakeresources.com.au

About Lake Resources NL (ASX:LKE)

Lake Resources NL (ASX:LKE, Lake) is a lithium exploration and development company focused on developing its three lithium brine projects and hard rock project in Argentina, all owned 100%. The leases are in a prime location among the lithium sector's largest players within the Lithium Triangle, where half of the world's lithium is produced at the lowest cost. Lake holds one of the largest lithium tenement packages in Argentina (~200,000Ha) secured in 2016 prior to a significant 'rush' by major companies. The large holdings provide the potential to provide consistent security of supply, scalable as required, which is demanded by battery makers and electric vehicle manufacturers.

The Kachi project covers 70,000 ha over a salt lake south of FMC/Livent's lithium operation and near Albemarle's Antofalla project in Catamarca Province. Drilling at Kachi has confirmed a large lithium brine bearing basin over 20km long, 15km wide and 400m to 800m deep. Drilling over Kachi (currently 16 drill holes, 3100m) has produced a maiden indicated and inferred resource of 4.4 Mt LCE (Indicated 1.0Mt and Inferred 3.4Mt) (refer ASX announcement 27 November 2018).

A direct extraction technique is being tested in partnership with Lilac Solutions, which has shown 80-90% recoveries and lithium brine concentrations 30-60,000 mg/L lithium. Battery grade lithium carbonate has been produced from Kachi brine samples with very low impurities (Fe, B, with <0.001 wt%). Phase 1 Engineering Study results have shown operating costs forecast in the lowest cost quartile (refer ASX announcement 10 December 2018). Test results have been incorporated into a Pre-Feasibility Study (PFS) aimed to be released soon. The Lilac process is being trialed with a pilot plant in California which will then be transported to site to produce larger battery grade lithium samples. Discussions are advanced with downstream entities, mainly battery/cathode makers, as well as financiers, to jointly develop the project.

The Olaroz-Cauchari and Paso brine projects are located adjacent to major world class brine projects either in production or being developed in the highly prospective Jujuy Province. The Olaroz-Cauchari project is located in the same basin as Orocobre's Olaroz lithium production and adjoins the Ganfeng Lithium/Lithium Americas Cauchari project, with high grade lithium (600 mg/L) with high flow rates drilled immediately across the lease boundary.

The Cauchari project has shown lithium brines over 506m interval with high grades averaging 493 mg/L lithium (117-460m) and high flow rates, with up to 540 mg/L lithium. These results are similar to lithium brines in adjoining pre-production areas under development and infer an extension and continuity of these brines into Lake's leases (refer ASX announcements 28 May, 12 June 2019).

Significant corporate transactions continue in adjacent leases with development of Ganfeng Lithium/Lithium Americas Cauchari project with Ganfeng announcing a US$237 million for 37% of the Cauchari project previously held by SQM, followed by a further US$160 million to increase Ganfeng's equity position to 50% on 1 April 2019, together with a resource that had doubled to be the largest on the planet. Ganfeng then announced a 10 year lithium supply agreement with Volkswagen on 5 April 2019. Nearby projects of Lithium X were acquired via a takeover offer of C$265 million completed March 2018. The northern half of Galaxy's Sal de Vida resource was purchased for US$280 million by POSCO in June-Dec 2018. LSC Lithium was acquired in Jan-Mar 2019 for C$111 million by a mid-tier oil & gas company with a resource size half of Kachi. These transactions imply an acquisition cost of US$55-110 million per 1 million tonnes of lithium carbonate equivalent (LCE) in resources.

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

Competent Person's Statement – Kachi Lithium Brine Project

The information contained in this ASX release relating to Exploration Results has 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 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 initial exploration at 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	• Bulk samples of brine samples for pilot plant test work were pumped from two holes (a diamond drill hole and a rotary drill hole) after purging the hole for 2 hours to obtain representative samples of the formation fluid. Samples of 10,000 litres were collected from each hole over a 12-hour period. • The brine sample was collected in clean plastic containers (1000 litre) and filled to the top to minimize air space. A sample and duplicate was collected at the same time in clean plastic 1 litre bottles 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. • Drill core was undertaken to obtain representative samples of the sediments that host brine.
Drilling techniques	• Diamond drilling with an internal (triple) tube produced cores with variable core recovery. • Rotary drilling has used 8.5” or 10” tricone bits and has produced drill chips.
Drill sample recovery	• Diamond drill core was recovered in 1.5m length intervals in the drilling triple (split) tubes. Chip samples were collected for each metre drilled and stored in segmented boxes for rotary drill holes. • Original brine samples were collected during drilling at discrete depths during the drilling using a double packer over a 1 m interval
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.
Sub-sampling techniques and sample preparation	• Brine samples for pilot plant test work were collected by pumping over a 12-hour period, after purging the hole initially for 2 hours. • The brine sample for pilot plant test work was collected in clean plastic containers (1000 litre) together with one-litre sample bottles, taped and marked with the sample number. • Lithium carbonate samples produced by Lilac Solutions were prepared by initially filtering the brine sample before being mixed with the IX beads and allowed to stand for a period of time, prior to being washed with HCl acid to produce a LiCl solution, and finally NaCO3 added to produce lithium carbonate. Aspects of the process are subject to confidentiality due to trade secrets.
Quality of assay data and laboratory tests	• The Alex Stewart Argentina/Norlab 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 analyzed 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, 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. • Lithium carbonate samples produced by Lilac Solutions were assayed using ICP by Lilac Solutions and supported by an independent laboratory.
Verification of sampling and assaying	• Field duplicates, standards and blanks of the brine samples are used to monitor potential contamination of samples and the repeatability of analyses. Accuracy, the closeness of measurements to the “true” or accepted value, are 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 • Brine samples were analysed for conductivity using a hand-held Hanna pH/EC multiprobe and density using a densitometer, together with temperature. • Duplicates of the lithium carbonate samples were delivered to an independent laboratory in California
Location of data points	• 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 from either 30m or 40m intervals from within brine producing aquifers, from drill holes with slotted casing.
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.
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. • Brine samples for pilot plant test work were transported in sealed 1000 litre containers by truck under the company's control and supervision until loaded into sealed containers only opened for customs control at port. • Lithium carbonate samples produced by Lilac Solutions were solely under the control and supervision of Lilac Solutions
Review (and Audit)	• The CP has been onsite periodically during the programme to review 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. The CP was not onsite for the collection of the brine samples for pilot plant test work. No audit of the Lilac Solutions process has occurred to date due to confidentiality and trade secrets.
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 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 37 mineral leases (minas) of which five leases (9,445 Ha) are granted for drilling, 22 leases are granted for initial exploration (51,560 Ha) and 10 leases (9457 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 sparse surface pit sampling of groundwater at depths less than 1m 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 drill holes 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 prior to drilling. A NI 43-101 report was released in February 2017. • No other exploration results were able to be located
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	• 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 widths and intercept lengths	• Mineralisation interpreted to be horizontally lying and drilling perpendicular to this.
Diagrams	• A drill hole location plan has been provided previously showing the locations of the drill platforms.
Balanced reporting	• Brine assay results are available from 13 drill holes from the drilling to date.
Other substantive exploration data	• All material information has been reported and released by the Company with the resource stated in key announcements 27 Nov 2018 and 10 Dec 2018. • There is no other substantive exploration data available regarding the project.
Further work	• Further brine samples for pilot plant test work may be collected prior to transporting the pilot plant to site where further holes will be pumped for test work. A Pre-Feasibility Study (PFS) is nearing completion.
Criteria	**Section 3 Estimation and Reporting of Mineral Resources**
Database integrity	• Data was transferred directly from laboratory spreadsheets to the database. 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. • Comparisons 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.
Geological interpretation	• The geological model is continuing to develop. There is a high level of confidence in the interpretation of for the Project to date. There are relatively consistent geological units with relatively uniform, clastic sediments. Any alternative interpretations are restricted to smaller scale variations in sedimentology, related to changes in grain size and fine material in units. • Data used in the interpretation includes rotary and diamond drilling methods. • Drilling depths and geology encountered has been used to conceptualize 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 consequently covers 142 km^2. The base of the resource is limited to a 400 m depth. The basement rocks underlying the salt lake sediments have been intersected in drilling. • The resource is defined to a depth of 400 m below surface, with the exploration target immediately extending beyond the areal extend of the resource.
Estimation and modelling techniques	• No grade cutting or capping was applied to the resource model. • No assumptions were made about correlation between variables. Lithium and potassium were estimated independently. • The high recoveries (80-90% of lithium from brine) and production of high purity lithium carbonate (99.9 wt%) has not been integrated into the model at this stage.
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 in the resource are estimated as metallic 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). • The high recoveries (80-90% of lithium from brine) and production of high purity lithium carbonate (99.9 wt%) has not been integrated into the model at this stage. • Dilution of brine concentrations may occur over time and typically there are lithium and potassium losses in both the ponds and processing plant in brine mining 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 hydrologic studies of the lake are being undertaken (groundwater modelling) to define the extractable resources and potential extraction rates
Metallurgical factors or assumptions	• In the current model, Lithium and potassium would be produced via conventional brine processing techniques and evaporation ponds to concentrate the brine prior to processing. • The model will be reassessed with the results of test work from Lilac Solutions using an ion exchange direct extraction method from benchtop lab testing and later from pilot plant testing. • Process test work (which can be considered equivalent to metallurgical test work) continues to be conducted on the brine using Lilac Solutions ion exchange direct extraction method. • The high recoveries (80-90% of lithium from brine) and production of high purity lithium carbonate (99.9 wt%) has not been integrated into the model at this stage.
Environmental factors or assumptions	• Impacts of a lithium and potash operation at the Kachi project would include; surface disturbance from the creation of extraction/processing facilities and associated infrastructure, accumulation of various salt tailings impoundments and extraction from brine and fresh water aquifers regionally. • The Lilac Solutions ion exchange direct extraction method uses reinjection of brines once the lithium has been removed without changing the chemistry of the fluids.
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 but the lithium and potassium is extracted by pumping. • However, 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. • The Measured resource reflects the predominance of diamond 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 resource reflects the limited drilling to this depth together with the likely geological continuity suggested by 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	• This Mineral Resource was estimated by the Competent Person.
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. • 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. • References: CIM Best Practice Guidelines for Resource and Reserve Estimation for Lithium Brines. Houston, J., Butcher, A., Ehren, P., Evans, K., and Godfrey, L. The Evaluation of Brine Prospects and the Requirement for Modifications to Filing Standards. Economic Geology. V 106, p 12251239.