ASX ANNOUNCEMENT

17 March 2021

Lake Refreshes Kachi PFS; NPV Increases to US$1.6Bn on Updated Pricing

Potential Kachi Production Increase Under Review

- **Kachi NPV_8 increases 110% to US$1.6bn (A$2.1 billion) based on revised lithium price estimates in a refreshed PFS, based on 25,500 tpa lithium carbonate production, which demonstrates a more robust financial outcome than the original conservative PFS price assumptions.**
- **Kachi project value, as post-tax NPV_8, increases 110% to US$1.58 billion (A$2.1 billion) with a 35% IRR and annual EBITDA of US$260 million (A$350m), using updated lithium price forecast of US$15,500/tonne for battery grade lithium carbonate.**
- **Lake assessing potential increase of lithium carbonate production at the Kachi Lithium Brine Project, as demand continues to rise from battery makers for high purity product.**

Clean lithium developer **Lake Resources NL (ASX:LKE; OTC:LLKKF)** has refreshed the Company's flagship Kachi Lithium Brine Project Pre-Feasibility Study (PFS) based on revised lithium price estimates which has increased the project value NPV_8 to US$1.6 billion (A$2.1 billion). Lake is assessing a potential expansion to production of lithium carbonate equivalent (LCE[1]) from Kachi.

The Kachi Lithium Brine Project Pre-Feasibility Study (PFS) (refer ASX announcement 30 April 2020) of 25,500 tpa of lithium carbonate was refreshed with an updated lithium price forecast of US$15,500/tonne for high-purity battery grade lithium carbonate (CIF Asia), without changing other parameters. This demonstrates a more robust financial outcome than the original conservative PFS price assumptions.

The refreshed PFS produced a project value, measured as unlevered post-tax NPV_8, of US$1.58 billion (A$2.1 billion[3]), an increase of ~110% from the PFS NPV_8 of US$748 million. The IRR increases to 35%; with annual operating cashflow (EBITDA) of US$260 million (A$350m) (refer project details Tables 1, 2 and 3).

An expansion of production at the Kachi project is being assessed as part of Lake's aspirational target to become a large producer of high purity sustainable lithium. There is an option to expand with either lithium hydroxide or lithium carbonate. This is amid projections of a growing supply deficit for high purity battery-grade product. Planned Kachi lithium production will have a smaller environmental footprint than conventional methods, with significantly reduced water usage, land use and carbon footprint – and these ESG benefits are increasingly sought after by electric vehicle makers (OEM's).

Expanded production at a significant and relevant scale for the battery supply chain, which could take place after full capacity has been achieved from initial production, would be expected to lower total operating costs and deliver economies of scale in capital cost savings, while delivering high quality product. Potential for further cost reductions would come through the use of solar hybrid power, which would also lower the project's total carbon dioxide footprint.

The updated lithium carbonate price used to refresh the PFS, was based on ongoing discussions with potential off takers for high purity lithium carbonate and recent projections from Benchmark Mineral Intelligence[2].

The original PFS (refer ASX announcement 30 April 2020) was based on a conservative flat price of US$11,000/tonne lithium carbonate (CIF Asia) for 25 years. Apart from revised lithium price estimates, all material assumptions in the refreshed PFS are unchanged from the original PFS including the assumptions upon which the production target is based and the forecast financial information, as set out in Tables 1, 2 and3, with related commentary.

Since the original PFS was released, high purity 99.97% lithium carbonate has been produced from Kachi brine from direct lithium extraction in pilot modules (ASX announcement 20 October 2020). Recently, the high purity of the Kachi lithium carbonate was demonstrated by Novonix which showed it functions well in a NMC622 battery half-cell (ASX announcement 2 March 2021), which may deliver improved performance over Tier 1 lithium carbonate readily available in the market.

These results have increased the appeal of the Kachi Project for project finance. Joint financial advisors have been appointed to structure and arrange project finance, with a focus on Export Credit Agencies, for the development of the Kachi Lithium Brine Project (ASX announcement 3 March 2021).

Detailed technical and financial studies will be undertaken by independent third-party assessors regarding the expansion options. Additional drilling will be undertaken to support an expansion case to allow for the conversion of Inferred Resources into the Measured and Indicated Mineral Resource category. This is anticipated to occur during the Definitive Feasibility Study, and will result in the conversion of Resources to Reserves.

Lake's Managing Director, Steve Promnitz commented: *"Updated lithium prices demonstrate just how financially robust the Kachi project is, which could potentially be enhanced with a production expansion.*

Significant new production is required to meet the forecast growth in demand from EVs and energy storage over the next 10 years. The Kachi project remains highly scalable and the Company is working towards an expansion which would make it globally significant in terms of high purity lithium carbonate production, and well-positioned to supply the expected deficit in battery grade product over the next few years.

This is an important differentiator of Lake as it continues to engage with major participants in the battery materials supply chain and electric vehicle makers. These participants are seeking high purity product, that can be scaled up to meet demand and has a measurable ESG benefit. Lake ticks all those boxes."

Background to Kachi Project and Assumptions

The Kachi Lithium Brine Project Pre-Feasibility Study (PFS) was released in detail in an ASX announcement on 30 April 2020 for a production target of 25,500 tpa of lithium carbonate.

The PFS has been refreshed with an updated lithium price forecast of US$15,500/tonne for battery grade lithium carbonate (CIF Asia), without changing other parameters. All assumptions are included in the ASX release of 30 April 2020.

Financially Robust Project - Economic Assumptions, Capex and Opex

The key conclusions of the PFS of the Kachi Lithium Brine Project's commercial viability under new lithium price assumptions are presented in Table 1. The unlevered project delivers a significant financial performance, with long term future price assumptions of US$15,500/t for battery grade lithium carbonate (CIF Asia), given the high purity of the product, with a post-tax NPV_8 of US$1.58 billion (A$2.5 billion) and an 35% IRR based on an annual production target of 25,500 tpa LCE. The annual EBITDA for the project is US$260 million (A$350 million).

Production Parameters		**Prior PFS Assumptions**	**Updated Lithium Price**
	Units	**Values**	**Values**
Construction Period (from end DFS)	Years	2	2
Project Life	Years	25	25
Production Rate – Lithium Carbonate	tonnes LCE per year	25,500	25,500
Mineral Resource (Indicated)	Million tonne LCE	1.01	1.01
Lithium Grade to Direct Extraction Plant	Mg/L	250	250
Production Rate – Brine Extracted	Million m^3/year	23	23
Recovery	%	83.2	83.2
Key Financial Parameters		**Prior PFS Assumptions**	**Updated Lithium Price**
Sale price assumptions - Li2CO3	**US$/Tonne**	**11,000**	**15,500**
Capital Investment (at start-up)	US$ million	540	540
Operating Cost (annual)	US$ million	107	107
Cash Cost (Opex, C1)	US$/tonne LCE	4178	4178
IRR pre-tax	%	25%	**42%**
IRR post-tax	%	22%	**35%**
NPV_8 (NPV @ 8% discount rate) Pre-tax	US$ million	1050	**2170**
NPV_8 (NPV @ 8% discount rate) Post-tax	US$ million	748	**1580**
Payback period from 1st product delivery	Years	5	**3**
Sales, annual	US$ million	280	**400**
Sales, life of project	US$ million	7,030	**9,845**
EBITDA, annual	US$ million	155	**257**
EBITDA, life of project	US$ million	3,890	**6,402**
US Dollars in constant 2020 terms (real)			

Table 1: Key Project Metrics and Financial Parameters

Operating and capital costs are presented on Tables 2 and 3. These are in October 2019 United States dollars, and estimated to an accuracy of about *minus* 20% to *plus* 30%. Capital costs exclude owner's costs whereas operating costs exclude corporate overheads, taxes and royalties. All costs associated with the direct extraction process were provided by Lilac Solutions, with the remainder based on engineering designs supported by OEM quotation, industry enquiries and supplier databases.

Capital Cost area	25,500tpa LCE	
	US$M	%
Direct Costs:	***399***	***73%***
Wellfield	25	5%
Processing	161	30%
Site infrastructure	18	3%
Site works (construction)	195	36%
Indirect Costs:	***145***	***27%***
EPCM	54	10%
Owner's costs	Excluded	
Contingency	91	17%
Total	**544**	

Table 2: Summary Capital Cost Estimate Breakdown

Operating Cost Factor	25,500tpa LCE		
	US$M/y	US$/t LCE	%
Labour	10	394	10%
Utilities (electricity, gas, water)	42.9	1,677	40%
Reagents	16.1	630	15%
Consumables	22.4	876	21%
Maintenance	4.7	185	4%
General & Administration	10.6	416	10%
Total	**106.8**	**4,178**	**100%**
Corporate costs, royalties and taxes excluded			

Table 3: Summary Annual Operating Cost Estimate Breakdown by Factor

Note: PFS completed to an approximate -20 +30% level of accuracy for capital and operating costs

Sensitivity, Financing and Marketing

Sensitivity analysis on selected production area, cost and revenue factors has been undertaken and is shown in Figure 6. The analysis shows that project NPV is most sensitive to revenue factors viz price, grade and recovery.

Joint financial advisors have been appointed to structure and arrange project finance, with a focus on Export Credit Agencies, for the development of the Kachi Lithium Brine Project (ASX announcement 3 March 2020). SD Capital Advisory Limited and GKB Ventures Limited have been appointed and focus on securing project finance for resources companies in developed and frontier market with a track record of delivering access to government supported schemes, including ECA financing. Once project debt finance has been applied, free cash flow is anticipated to improve. Confirmation of project debt support from Export Credit Agencies on an approximate 70/30 debt-to-equity basis is anticipated to provide comfort for equity investment required.

Discussions have been underway for some time with participants in the battery materials supply chain, including prospective offtakers, commodity traders, battery makers and electric vehicle companies which should lead to adequate offtake arrangements prior to the completion of project finance. Support for the project has increased since product quality was confirmed and then later proven in a battery half cell.

Project Location and Mineral Resource

The Kachi Lithium Brine project is located approximately 50 km south of the town of Antofagasta de la Sierra, in the Province of Catamarca and 100km south of the lithium brine operation at Hombre Muerto, owned by Livent (previously FMC). Lake Resources controls 100% of the project, which comprises 74,380 hectares of mineral concessions over the salar through its Argentine subsidiary Morena del Valle Minerals S.A.

A JORC compliant resource was reported to the ASX on 27 November 2018 of:

- 1.0 million tonnes LCE[1] at 290 mg/L lithium (Indicated), and
- 3.4 million tonnes LCE at 210 mg/L lithium (Inferred).

This resource remains open at depth and laterally, and further drilling is expected to expand and upgrade it. It has low impurities as indicated by a Mg/Li ratio of 3.8 to 4.6 . The total Mineral Resource comprises a brine volume of 3.8 km3, with an average drainable porosity of 8%, and mean lithium grade of 211 mg/L, for a total lithium content of 826,000 tonnes, or 4.4 million tonnes LCE. Of this, the production target of the PFS utilised the Indicated Resource of 1.01 million tonnes LCE at an average grade of 289 mg/L lithium. No inferred resources were used. A diluted lithium grade 250 mg/L was used as feedstock to the direct extraction plant in the engineering study. No cut-off grade was used due to the use of the diluted lithium grade. This has been supported by testwork to date using direct lithium extraction.

The 25,500 tpa LCE production target for the PFS was based on the utilization of 90% of the JORC Indicated Resource. To support an expansion case, additional drilling will be undertaken to allow for the conversion of part of the Inferred Resource into the Measured and Indicated Mineral Resource category. This is anticipated to occur during the Definitive Feasibility Study during the Resource to Reserve conversion process. Only a small portion of the Inferred Resource would be required for adequate support.

Production Schedule, Plant Design, Flowsheet and Extraction Method

Production is planned to ramp-up within the first six months to 25,500 tpa of battery grade lithium carbonate and then production to remain constant for 25 years. The plant design in the PFS targeted production of 25,500 tpa of battery grade lithium carbonate through the treatment of brine with direct lithium extraction technology based on ion exchange (IX) with the concept shown in Figure 1 and the flowsheet in Figure 4.

The flowsheet comprises two sections:

1. Direct lithium extraction as per Lilac Solutions Inc, uses ion exchange to produce a lithium-enriched eluate;
2. Lithium carbonate plant converts the eluate into refined lithium carbonate.

The process involves the annual treatment of about 23 million cubic metres of brine at 250 g/L lithium, with an overall plant recovery of 83.2%. The brine is extracted from the salar, and piped to brine storage, filtered to remove solids, and then processed in the direct extraction plant. Lithium-depleted brine from the direct extraction plant is reinjected into the salar. The eluate from the process is further concentrated and purified and fed into a conventional lithium carbonate plant. The purified lithium chloride concentrate reacts with sodium carbonate to produce lithium carbonate. The plant layout is shown on Figure 3. Test work conducted by Lilac and Hazen Research has demonstrated that a 99.97% lithium carbonate product with low impurities (battery grade) can be produced by the Lilac process (Table 4) within several hours of extraction (ASX announcement 20 October 2020). Major reagents consumed include sodium carbonate, sodium hydroxide and hydrochloric acid. Major consumables include natural gas for electrical power, and steam production. Alternatives for electrical power are being actively reviewed. Operating costs can be reduced by replacing most of the gas supply with a solar PV (+/- wind power) supported by battery storage

An expanded plant design would be planned to increase production of battery grade lithium products as either lithium carbonate or potentially both lithium hydroxide and lithium carbonate.

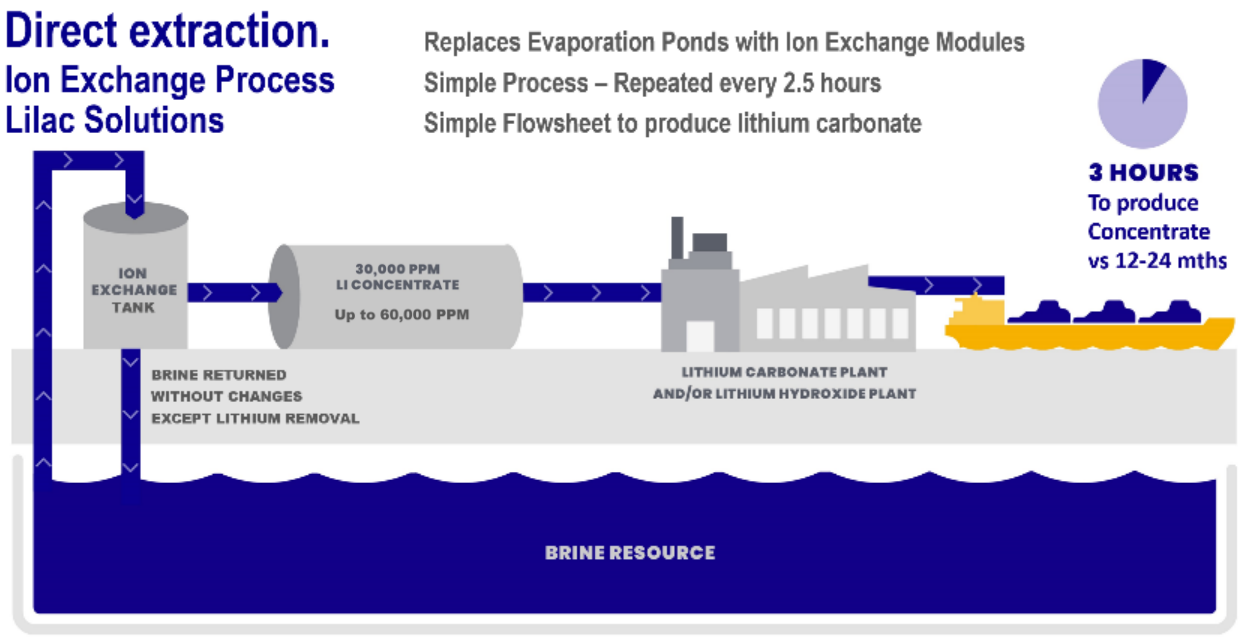


Figure 1: Lilac Solutions direct extraction concept using direct lithium extraction.

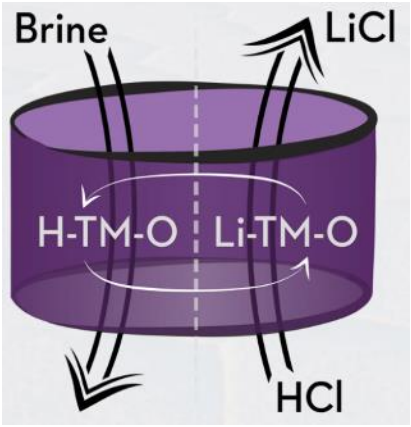


Figure 2: Lilac Solutions direct extraction concept at the individual module scale

Figure 3: Layout of the Kachi Lithium Carbonate Plant (ASX announcement 30 April 2020; 19 Jan 2021)

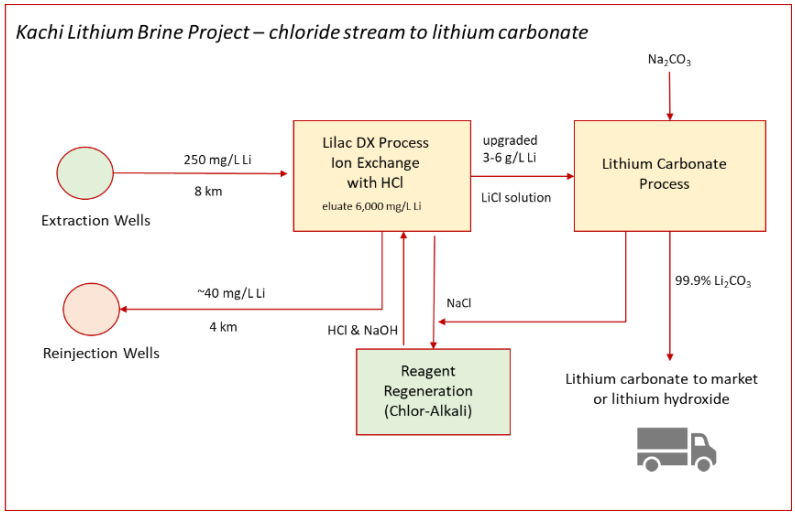
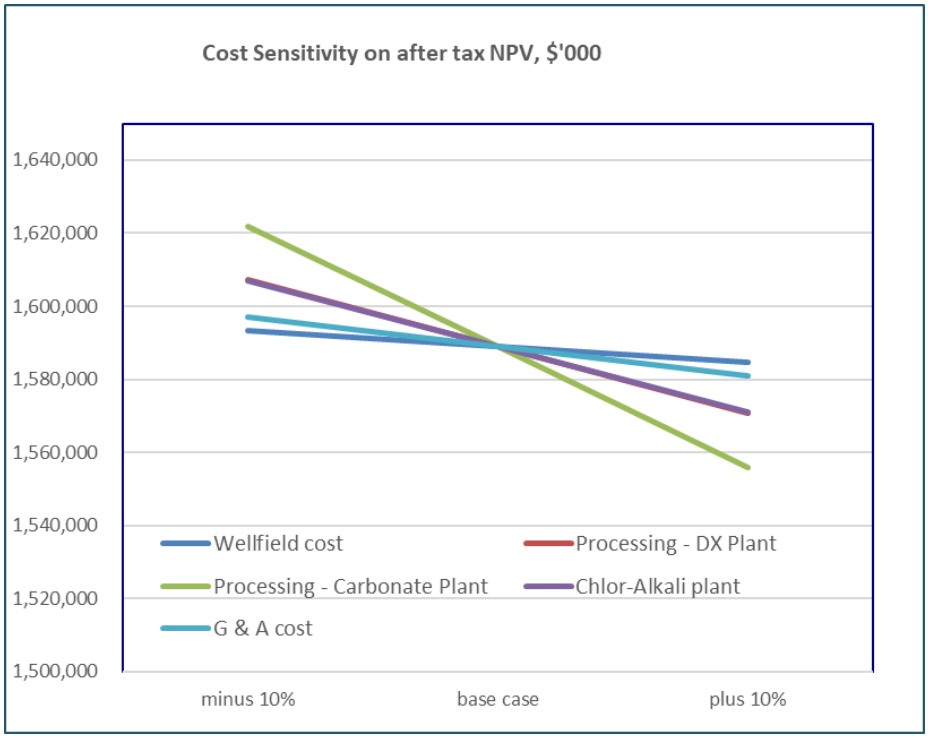


Figure 4: Schematic of the Kachi Lithium Carbonate Plant Flowsheet (ASX announcement 30 April 2020)

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

Table 4: Chemical specifications of lithium carbonate produced by direct lithium extraction (ASX announcement 20 Oct 2020)

Figure 5: Environmental footprint is orders of magnitude smaller in water usage and physical extent than traditional methods



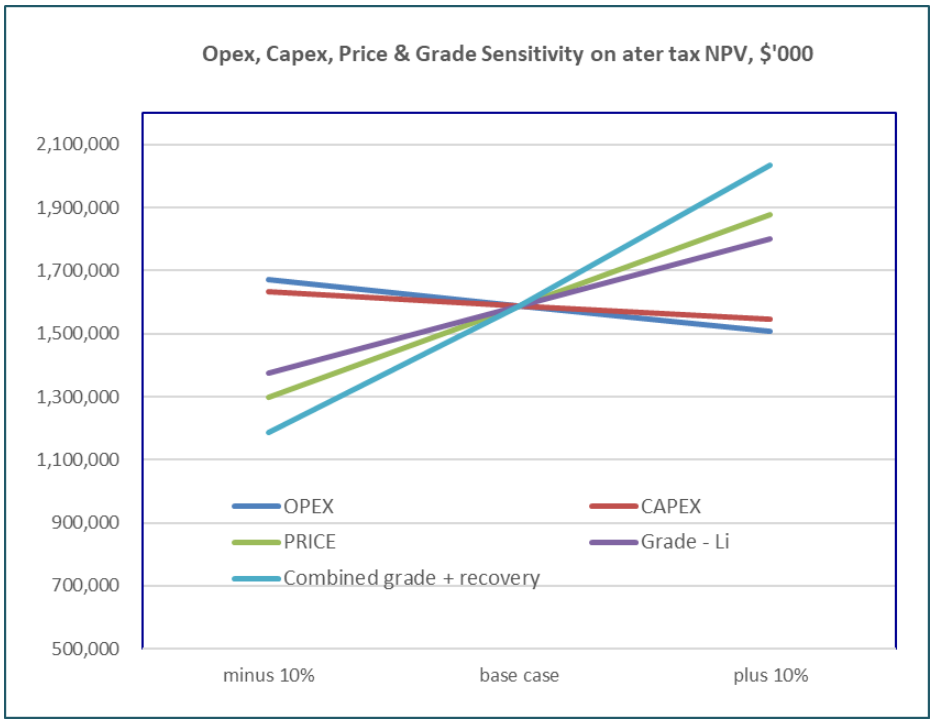


Figure 6: After-Tax NPV8 Sensitivity Plots to Production areas, Cost, and Revenue at revised lithium carbonate price of US$15,500 (CIF ASIA)

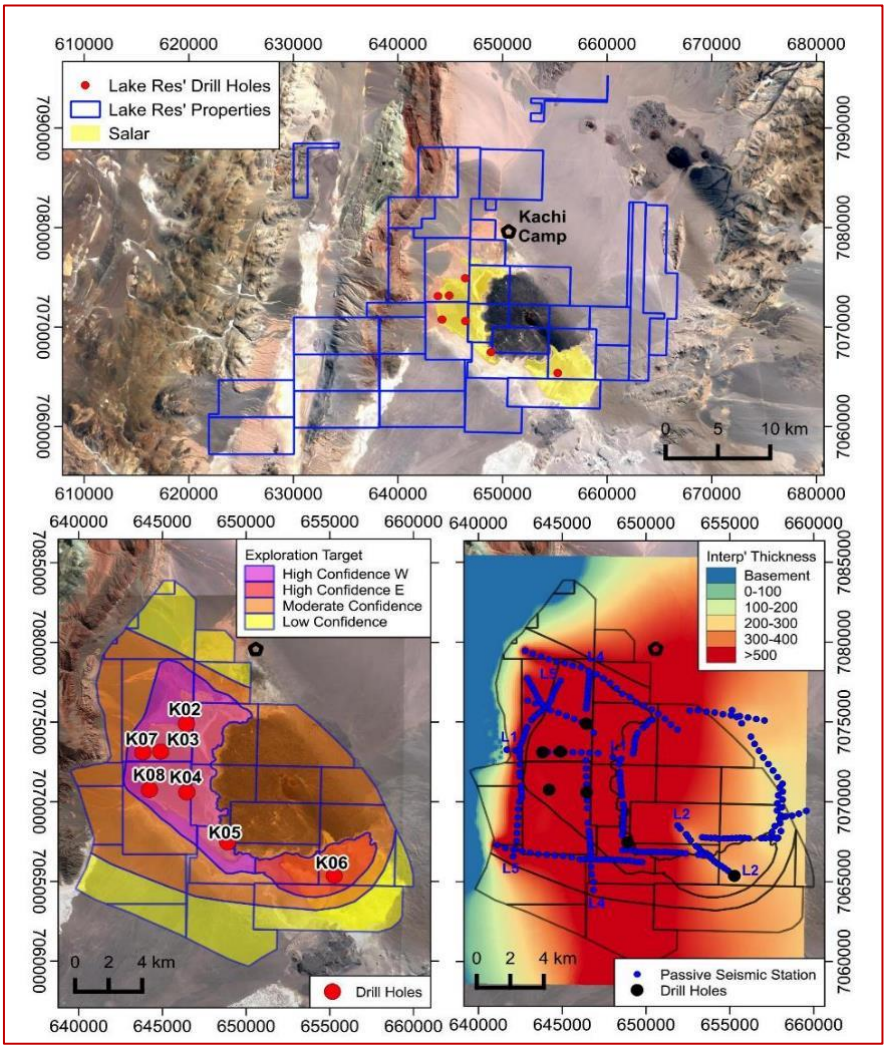


Figure 7: Drill holes and seismic lines used in the resource estimation

Tenements, Infrastructure and Environmental

The Kachi Lithium Brine project is located 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 74,380 hectares (183,000 acres) in thirty-nine (39) mineral leases (minas) granted for exploration with drilling undertaken within six leases (see Figure 6). The tenements are in good standing, with statutory payments completed to relevant government departments. This was reviewed recently in 2021 and confirmed.

Current infrastructure includes the sealed highway (Provincial Road 43) that connects the local communities of El Peñon and Antofagasta de la Sierra with Belen and the cities of Catamarca and Tucuman. Other site infrastructure is included in the capital cost forecast.

The principal environmental concern for the project is to protect the wetland ecosystem and water balance of the Carachi Pampa basin, as well as the touristic (scenic) value of the southern sectors of the salar and fresh water lake. Compliance with the environmental regulations of Catamarca Province and Argentina, as well as international norms is central to the company's environmental management strategy. Baseline studies and an Environmental Impact Report ("EIR") for the exploration and pilot plant operation have been essential to maintaining exploration and development work to date.

For commencement of production, the large number of permits will be required, which are preceded by a more comprehensive Social and Environmental Impact Assessment, currently underway, together with an operations environmental management plan. An Environmental Management Plan is being developed for the protection of wetlands, salt lakes, the aquifers affected and the surrounds. Consultation continues with communities in the area of influence of the project which will lead to a comprehensive community relations plan, and project closure plan.

Impacts of a lithium operation at the Kachi project would include surface disturbance from the installation of extraction/processing facilities and associated infrastructure, which is estimated to cover an area not exceeding 0.5km x 1km.

Approvals for production are managed by the regulations of Catamarca Province which follow federal guidelines in Argentina. An approved Social and Environmental Impact Assessment and an approved Feasibility Study are required for construction and production.

Next Steps
The Definitive Feasibility Study is underway with Hatch and other participants using the parameters from the PFS as a base targeting 25,500 tpa lithium carbonate.

Further engineering studies on reducing operating and capital costs for the project are expected to indicate that the operating cost can be reduced by replacing most of the gas supply with a solar PV (+/- wind power) supported by battery storage. Consideration is being given to outsourcing solar hybrid power supply, with a guaranteed supply agreement over time. This is part of the ongoing definitive feasibility study.

An expansion would be assessed to commence after full capacity has been achieved from the initial 25,500tpa LCE production. Additional drilling will be undertaken to support the expansion case to allow for the conversion of part of the Inferred Resource into the Measured and Indicated Mineral Resource category. This is anticipated to occur during the Definitive Feasibility Study during the Resource to Reserve conversion process. Further studies will be conducted on the feasibility of producing lithium hydroxide on-site. Initial studies will be conducted internally with detailed financial studies undertaken by independent third party assessors.

Footnotes:
[1] *LCE = lithium carbonate equivalent, which is calculated as lithium metal content times 5.323*
[2] *Benchmark Mineral Intelligence*
[3] *USD/AUD exchange 0.75 (In PFS, 0.63 was used),*

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

Join Lake's mailing list for the latest ASX announcements and other news via this link:
http://eepurl.com/gwA3o9

For media queries, please contact:
Anthony Fensom, Republic PR, +61 (0) 407 112 623 , anthony@republicpr.com.au
Henry Jordan, Six Degrees Investor Relations: +61 (0) 431 271 538

Cautionary Statements

General Statement and Cautionary Statement

This report has been prepared by Lake Resources N.L (Lake) for information and planning purposes, but may be received by sophisticated and professional investors, institutional investors and brokers and not any particular party. The information in this report is based upon public information and internally developed data, and reflects prevailing conditions and views as of this date, all of which are accordingly subject to change. The information contained in this report is not intended to address the circumstances of any particular individual or entity. There is no guarantee that the information is accurate as of the date it is received or that it will continue to be accurate in the future. No warranties or representations can be made as to the origin, validity, accuracy, completeness, currency or reliability of the information. No one should act upon such information without appropriate professional advice after a thorough examination of the particular situation. Lake Resources NL accepts no responsibility or liability to any party in connection with this information or views and Lake disclaims and excludes all liability (to the extent permitted by law) for losses, claims, damages, demands, costs and expenses of whatever nature arising in any way out of or in connection with the information, its accuracy, completeness or by reason of reliance by any person on any of it. The information regarding any other projects described in this report are based on exploration targets, apart from Kachi project's resource statement. The potential quantity and grade of an exploration target is conceptual in nature, with insufficient exploration to determine a mineral resource and there is no certainty that further exploration work will result in the determination of mineral resources or that potentially economic quantities of lithium will be discovered.

An expansion case would require additional work to convert Inferred Mineral Resources into a higher category. There is a low level of confidence associated with Inferred Mineral Resources and there is no certainty that further exploration work will result in the determination of mineral resources or that an improved production target itself will be realized. All production targets are based on the company's current expectations of future results or events and should not be solely relied upon by investors when making investment decisions. Further evaluation work and appropriate studies are required to establish sufficient confidence that an expanded target will be met.

Forward Looking Statements

Certain statements contained in this report, including information as to the future financial performance of the Kachi Lithium Brine Project are forward-looking statements. Such forward-looking statements are necessarily based upon a number of estimates and assumptions that, while considered reasonable by Lake Resources N.L. are inherently subject to significant technical, business, economic, competitive, political and social uncertainties and contingencies; involve known and unknown risks and uncertainties and other factors that could cause actual events or results to differ materially from estimated or anticipated events or results, expressed or implied, reflected in such forward-looking statements; and may include, among other things, statements regarding targets, estimates and assumptions in respect of production and prices, operating costs and results, capital expenditures, reserves and resources and anticipated flow rates, and are or may be based on assumptions and estimates related to future technical, economic, market, political, social and other conditions and affected by the risk of further changes in government regulations, policies or legislation and that further funding may be required, but unavailable, for the ongoing development of Lake's projects. Lake Resources N.L. disclaims any intent or obligation to update any forward-looking statements, whether as a result of new information, future events or results or otherwise. The words "believe", "expect", "anticipate", "indicate", "contemplate", "target", "plan", "intends", "continue", "budget", "estimate", "may", "will", "schedule" and similar expressions identify forward-looking statements. All forward-looking statements made in this report are qualified by the foregoing cautionary statements. Investors are cautioned that forward-looking statements are not guarantees of future performance and accordingly investors are cautioned not to put undue reliance on forward-looking statements due to the inherent uncertainty therein. Lake does not undertake to update any forward-looking information, except in accordance with applicable securities laws.

Competent Person Statement

The information contained in this report 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 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 Lithium Brine project.

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 200,000 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.

A Definitive Feasibility Study (DFS) is underway at the Kachi Project with Hatch providing engineering, which is aimed for completion in Q1 next year, together with other related studies. Lake is currently funded through to the construction financing phase, anticipated to be mid next year, with production of 25,500 tpa lithium carbonate scheduled for H1, 2024.

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 http://www.lakeresources.com.au/home/

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. • Drill core was undertaken to obtain representative samples of the sediments that host brine.
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, 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. • Regular calibration using standard buffers is being undertaken.
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 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's (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 74,380 Ha in thirty nine mineral leases (minas) granted for exploration with drilling undertaken within six leases. • The tenements are in good standing, with statutory payments completed to relevant government departments. This was reviewed recently and confirmed.
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.
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, totaling 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 widths and intercept lengths	• Mineralisation interpreted to be horizontally lying and drilling perpendicular to this.
Diagrams	• A drill hole location plan that has been provided previously in the maiden resource statement (November 2018) shows the locations of the drill platforms but is not presented here.
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 and previously in the maiden resource statement (November 2018).
Other substantive exploration data	• There is no other substantive exploration data available regarding the project, apart from bulk samples totaling 40,000 litres of brine which were sent for testing by direct lithium extraction modules.
Further work	• Further water well drilling is planned to expand the resource, convert Inferred Resources to a higher classification and aim to convert Measured and Indicated Resources into Reserves, while testing pumping rates. •

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. • 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 • 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 interpretation of the exploration results 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 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 modelling techniques	• No grade cutting 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.
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 assumptions	• Lithium carbonate is targeted as the commercial product. • 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 which is processed in a conventional lithium carbonate plant by reaction with sodium carbonate: $LiCl + Na_2CO_3 \rightarrow Li_2CO_3 + NaCl$

	• Process work, and pilot module testing has been undertaken by Lilac Solutions, which is an expert laboratory in the treatment of brines by ion exchange. • Bench tests included 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 processed over 20,000 litres of Kachi brine using Lilac Solutions ion exchange direct extraction method, which produced 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. • Novonix has demonstrated that the 99.97% purity lithium carbonate performs well in an NMC622 battery half cell after lithiation into a cathode with standard commercial precursor material. • 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.
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. • 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.
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

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.