ASX ANNOUNCEMENT

19 December 2023

Maiden Ore Reserve Defined Lake Resources Flagship Kachi Project

Lake Resources N.L. (ASX: LKE; OTC: LLKKF) ("Lake" or the "Company") is pleased to announce its maiden Ore Reserve statement for the Kachi lithium brine project ("Kachi" or the "Project") in Argentina.

The basis for this Ore Reserve statement is hydrogeologic modelling completed for the Project that incorporates the recent Mineral Resource Estimate[1] and extensive hydrogeological characterisation work completed in 2022 and 2023 including extraction and injection testing[2].

This Ore Reserve is the basis for the Kachi Project Phase One Definitive Feasibility Study ("DFS"), which was released today. The Ore Reserve demonstrates that the mine plan is capable of delivering sufficient lithium brine to the plant for a planned 25 ktpa operation over the Life of Mine ("LoM").

Ore Reserve demonstrates mine plan capable of delivering sufficient lithium brine for planned 25 ktpa operation:

- Mine plan includes 16 production wells and 21 injection wells with average grades and flow rates that exceed production requirements for a 25 ktpa[3] operation for a 25-year LoM.
- Ore Reserve is constrained by currently planned plant capacity of 25,228 tpa, not pumping and injection capacities.
- Kachi well field layout optimized using the Hydrogeologic Model to maximize lithium grade recovered, maximize Proved Ore Reserve and minimize environmental impacts.
- Average lithium feed grade to the plant for the first seven years of operations is 257 mg/L, averages 245 mg/L in years eight to 25 and reduces to 232 mg/L by year 25.
- More than 85% of the 25-year Life-of-Mine ("LoM") production is derived from Measured Resources with the remained predicted to be sourced for Indicated Resources.

"We are excited to share the well field development plan and hydrogeologic modeling results for the Project. The modeling demonstrates that the feed grade will average above 245 mg/L with minimal dilution and that the operation can be developed in an environmentally responsible manner," Michael Gabora, Director of Geology and Hydrogeology said. He continued, "The Ore Reserve for the 25 ktpa operation extracts just a small percentage of the Mineral Resource Estimate."

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[1] See LKE ASX Announcement dated 22 November 2023

[2] See LKE ASX Announcement dated 16 August 2023

[3] Abbreviations summary: Tonnes per annum (tpa), Million Tonnes (Mt), Lithium Carbonate Equivalent (LCE), meters (m), square kilometers (km^2), milligrams per liter (mg/L), Life-of-Mine (LoM)

Other Highlights

- Reducing the simulated LCE production to the expected plant throughput results in a Proved and Probable Ore Reserve of 624,400 tonnes LCE (see **Table 1**). The mine plan produces 806,300 tonnes LCE, representing less than 12% of the Measured and Indicated Mineral Resource[4].
- The Proved Ore Reserve derived from Measured Resources is constrained to the first seven years of operation, equalling 170,300 tonnes.
- Ore Reserves from Measured Resources in years eight to 25 are conservatively categorised as Probable Ore Reserves with the aspiration that these will convert to Proved Reserves as the predictive reliability of the hydrogeologic model increases with additional data collection.
- The defined injection strategy maintains higher reservoir pressures and minimises potential environmental impacts.
- Dilution in lithium grade is predicted to be <2% in year seven and about 10% in year 25. This principally occurs because of capturing slightly lower grade brine and dilution from spent brine injection.
- The hydrogeologic model reproduces historical data very well, which improves the predictive reliability of the model simulations related to lithium recovery and injection.

"All the Ore Reserve for the first seven years of operations is in the Proved Ore Reserve category which demonstrates the high level of confidence in the data and modelling work completed to date. More than 90% of the lithium brine continues to be derived from the Measured Resource through the LoM, but the Competent Person ("CP") has allocated this to the Probable Ore Reserve category. Continued data collection and model updates will most likely result in further upgrades to the Proved Ore Reserve, given the favourable conditions," Mr. Gabora said.

A variable density groundwater flow and solute transport model ("Hydrogeologic Model") was developed using the Groundwater Vistas interface and MODFLOW-USG[5] code to evaluate the extraction of lithium enriched brine and injection of spent brine after direct lithium extraction ("DLE") from the wells during the 25-year LoM. The Hydrogeologic Model was constructed based on the geologic framework model developed for the Mineral Resource estimate[4]. The Hydrogeologic Model incorporates the water balance studies[6], local scale evapotranspiration studies[7], and hydraulic testing work[8]. To demonstrate the model's ability to reproduce measured conditions in the basin, it was calibrated to historical observations of lake stage at the "laguna" from 2000 to 2023, evapotranspiration fluxes determined from studies, historical groundwater and brine levels, changes in brine levels during extraction and injection testing, lithium concentrations during extraction tests, and to a lesser extent, the total dissolved solids concentrations.

[4] See LKE ASX Announcement dated 22 November 2023

[5] Panday, S. 2023. MODFLOW-USG-Transport (v2.2.1). GSI. Available at: http:// http://www.gsi-net.com/en/software/free-software/USG-Transport.html

[6] Lithium Solutions, 2023. Hydrophysical Water Budget Assessment and Hydrogeochemical and Isotopic Tracing of Water Source and Transit in Carachi Pampa Basin, Argentina

[7] Atacama Water, 2022. Kachi Project - Soil evaporation measurements, wet season 2022. April 2022

[8] See LKE ASX Announcement dated 16 August 2023

The Ore Reserve estimate considers the Modifying Factors of converting Mineral Resources to Ore Reserves, including the production and injection well field designs and efficiency (e.g., location, drilling and well construction details, pumping requirements, etc.), environmental considerations (e.g., changes at key environmental receptors), lithium recovery rates, and plant capacity and is based on the same material assumptions as the DFS. The mine plan produces well field flow rates and concentrations in excess of plant requirements, which provides an additional factor-of-safety that the production schedule can be achieved, even if small changes in ramp-up and ramp-down schedules are implemented. As a result, plant capacity is the limiting factor for the Ore Reserve based on the mine plan presented in this announcement.

The Ore Reserve was classified into Proved Ore Reserves and Probable Ore Reserves based on industry standards[9] for lithium brine projects, the CP's experience, and the confidence in the quality and quantity of both data and hydrogeologic model performance. A majority of the extracted mass is sourced from Measured Resources; nonetheless, Proved Ore Reserves were specified by the CP for the first seven years, given the level of model calibration and yearly production goals (see **Table 1**). Probable Ore Reserves were conservatively assigned for the last 18 years of the LoM, considering that the model will be continually improved and recalibrated in the future, including additional extraction and injection testing, initial operations, and measurements of dilution, among other factors. Lake has discussed the potential for future Project Phases that would see a further increase in the production, but these phases are not included in this Ore Reserve Statement.

The Project well field development plan consists of 16 extraction wells and 21 injection wells in the configuration shown in **Figure 1**. The Phase 1a wells will be drilled and operated for six months, after which Phase 1b wells will be online. The final two injection and extraction wells (back-up wells) will be online by the start of year two. The extraction is focused on the core of the salar where lithium concentration has been consistently high, and three long-term pumping tests (12 to 31-days in length). Injection wells are located in the coarse-grained alluvial fan materials in the west and along the eastern margin of the central resource area. The injection configuration provides pressure maintenance in the production horizon and near springs along the western margin of the volcano, while keeping dilution resulting from spent brine injection to a minimum.

[9] Association of Mining and Exploration Companies, 2020. Guidelines for Resource and Reserve Estimation for Brines. https://www.jorc.org/docs/Brine_Guideline_final.pdf

Table 1. Proved and Probable Lithium Reserves

Reserve Category	Years	Lithium (Tonnes)	LCE (Tonnes)	Average Lithium (mg/L)
Proved	1	3,600	18,900	258.6
Proved	2-7	28,500	151,400	257.2
Probable	8-25	85,400	454,100	245.0
Total	**1-25**	**117,400**	**624,400**	

Notes to the Ore Reserve Estimate:

- Lithium is converted to lithium carbonate (Li2CO3) equivalent with a conversion factor of 5.32.
- The effective date for the Ore Reserve Estimate is based on the resource update from November 22, 2023[10].
- The Ore Reserves are estimated based on the output from the processing circuit, as the 75% processing efficiency is accounted for in the Ore Reserve estimates.
- Numbers may not add due to rounding effects.
- Projected processing is based on first year rate of 18,921 tonnes LCE.
- Projected processing for years two to 25 rate of 25,228 tonnes LCE.
- The CP for the Ore Reserve estimate is Andrew Fulton.

[10] See LKE ASX Announcement dated 22 November 2023

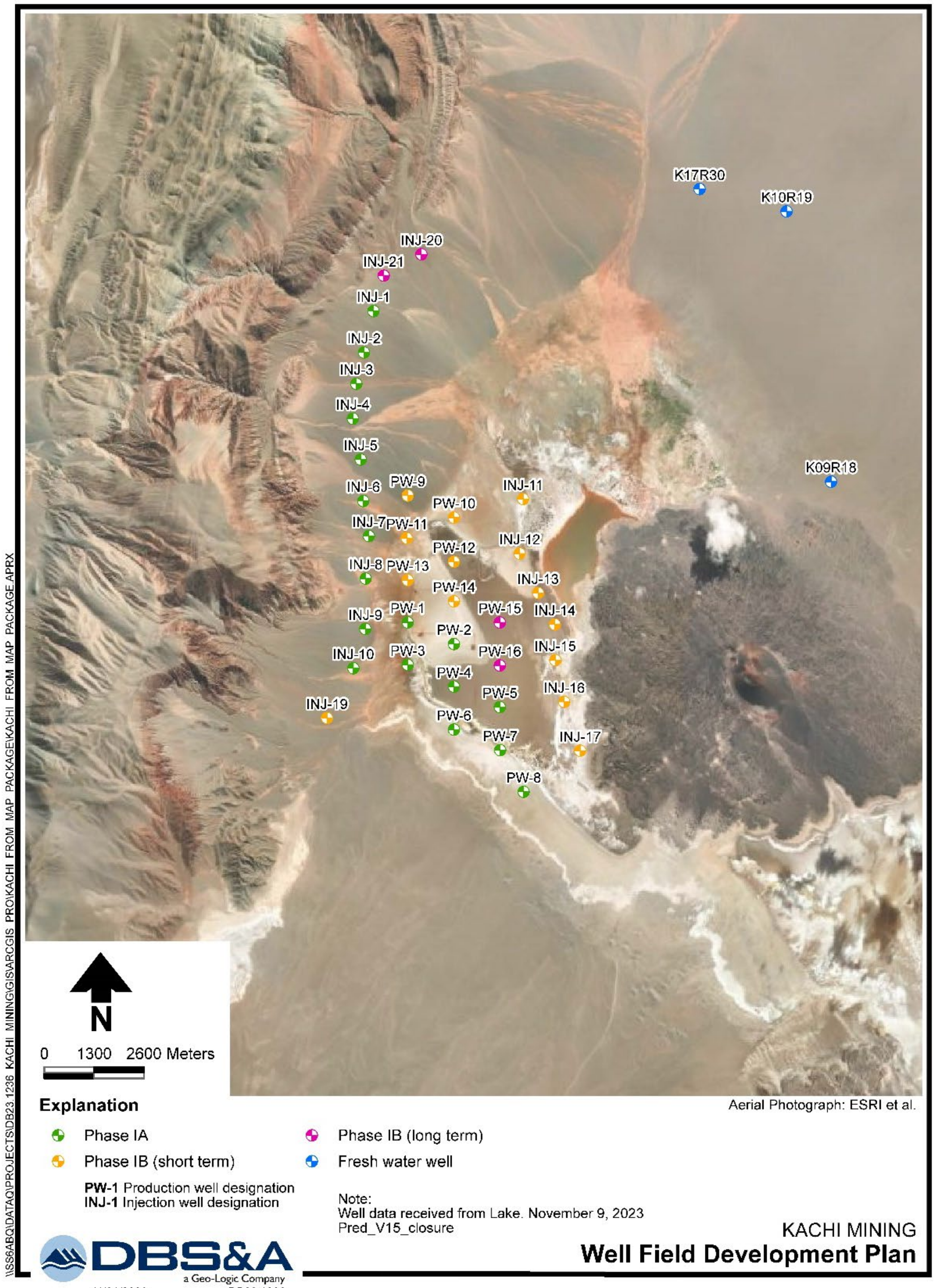

Figure 1. Modelled well field layout for extraction and injection wells

Mr. Gabora said the maiden Ore Reserve statement demonstrates some of the great advantages of DLE and injection of spent brine. “The impacts to the hydrogeologic system are vastly reduced over traditional processing methods as a result of returning the spent brine back into the hydrogeologic system. This effectively maintains pressures in the system, providing both operational and environmental benefits.”

Summaries of the Project Background, Mineral Resource and Ore Reserve analysis are provided in subsequent sections.

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

Lake Resources NL (ASX:LKE, OTC: LLKKF) is a responsible lithium developer utilising state-of-the-art ion exchange extraction technology for production of sustainable, high purity lithium from its flagship Kachi Project in Catamarca Province within the Lithium Triangle in Argentina. Lake also has three additional early-stage projects in this region.

This ion exchange extraction technology delivers a solution for two rising demands – high purity battery materials to avoid performance issues, and more sustainable, responsibly sourced materials with low carbon footprint and significant ESG benefits.

Forward Looking Statements:

Certain statements contained in this announcement, including information as to the future financial performance of the projects, 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 announcement 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.

Maiden Ore Reserve Report

The Project background and modelling work completed to define the Ore Reserve and related Modifying Factors are discussed in the following report.

Project Background

The Kachi Project is located on the Carachi Pampa basin at the south end of the Puna geographical region, Argentina (**Figure 2**). The modern-day Puna Region is the southern continuation of the Bolivian Altiplano with an average elevation of 4,400 meters (m) above mean sea level (amsl), although Project elevations are considerably lower, about 3,010 m amsl, which provides considerable advantages from climate and operations perspectives.

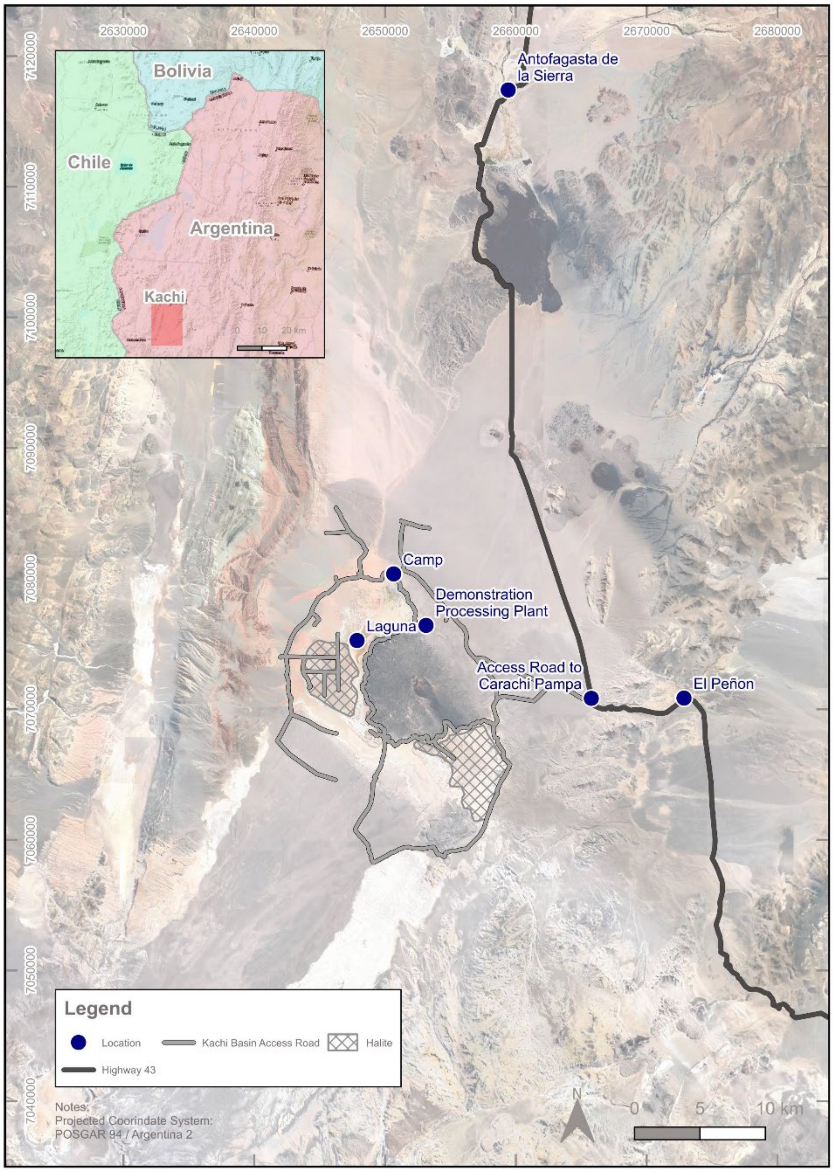

Figure 2. Kachi Project Location and Layout

Property Holdings

Lake Resources holds 53 mineral leases ("Minas") in the Basin covering the surface of the salar and surrounding areas (**Figure 3**). The mineral leases are summarized in **Table 14** (following the text), with the property names, file numbers, and details of the approvals related to each of the concessions.

All information regarding the legal status of the properties was provided by Morena del Valle Minerals SA ("MVM"); the local subsidiary of Lake Resources in the Province of Catamarca. The status of properties has not been independently verified by the CP, who takes no responsibility for the legal status of the concessions.

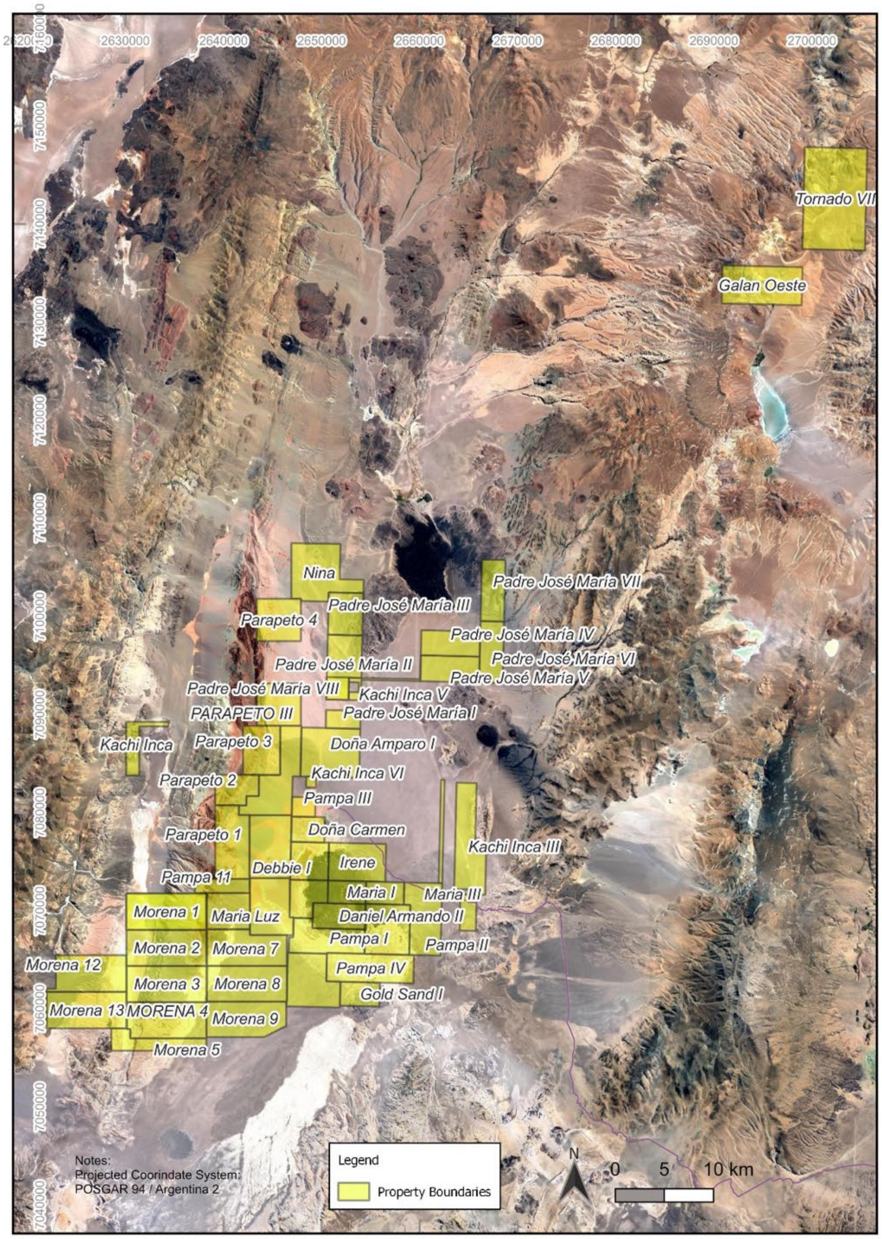

Figure 3. Kachi Project Mineral Concessions

Note: Galan Oeste and Tornado VII are not currently part of Kachi Project mine plan

Geology and Geological Interpretation

The Carachi Pampa basin is an arid, closed basin comprised of interbedded lacustrine and alluvial sediments of gravels, sands, silts, and clays, with episodic volcanic deposits of ignimbrites, tuffs, and basalts (Figure 4). The basin is bounded to the east and west by north-south trending mountain ranges formed by thrust faulting exposing basement sequences in outcrops that rise to an elevation of about 5,100 m amsl. The Cerro Blanco pyroclastic complex is located on the south of the basin and is the primary source of the pyroclastic flows that deposited the ignimbrites and tuffs, while the Antofagasta de la Sierra and the Cerro Galan volcanic complex form the highlands in the north and northeast borders of the basin. The ranges to the east are composed of crystalline pre-Cambrian basement that gently slopes down to the basin floor. Red bedded sandstone and claystone sequences of the Geste and Patqia de la Cuesta Formations outcrop in the Los Colorados Range along the western edge of the basin. Extensive alluvial fan deposits were formed to the north, south, east and west of the central salar, as coarse-grained, high-energy sediments were shed from the nearby steep terrains. Altogether the basin drains a watershed area of 9,494 km^2.

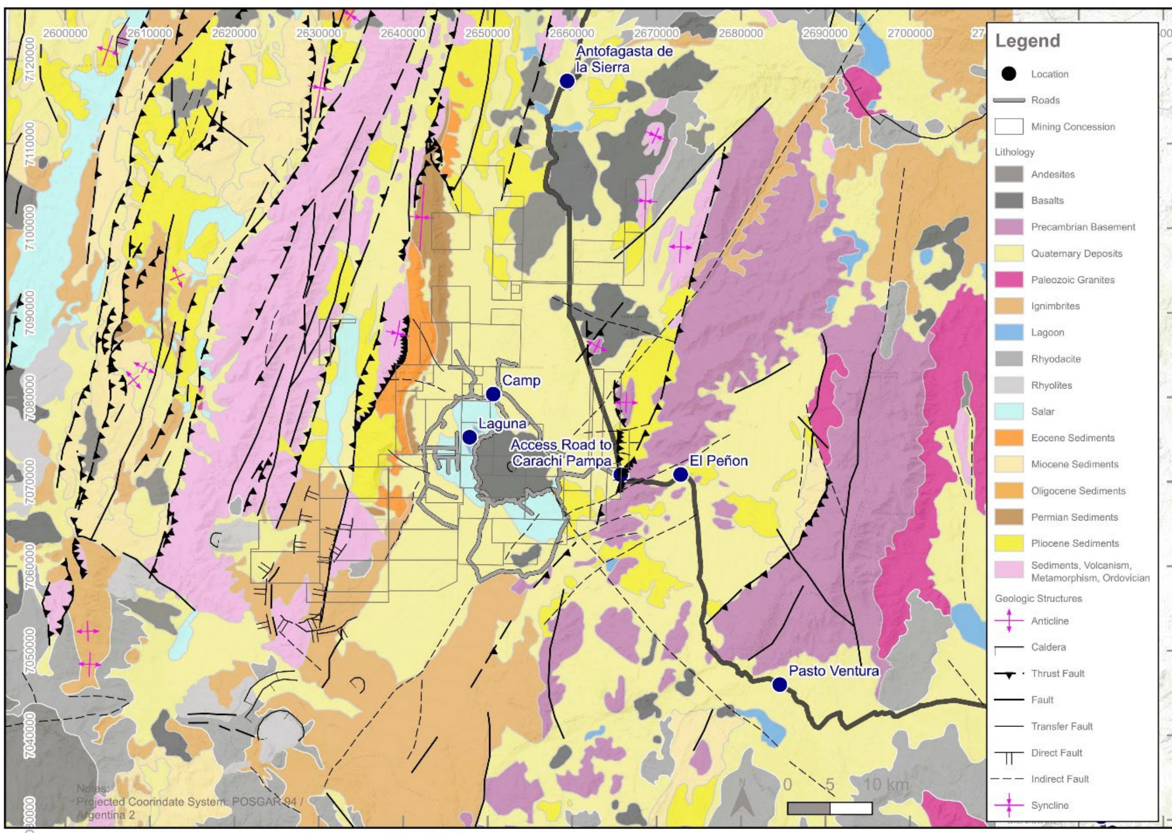

Figure 4. Geology of the Kachi Project Area

The center of the basin is dominated by the Quaternary basalt flows and the cider-cone of the Carachi Pampa Volcano. The volcano penetrates basin sediments to the east of the salar, with flow and air fall basalts creating a veneer over the lacustrine sediments. The volcano has a northwest-southeast striking fissure vent that is interpreted to be underlain by a northwest-southeast aligned intrusive dyke or plug of much smaller dimensions than the basalt cone has at the surface.

Salars occur in closed basins with no external drainage in dry desert regions where evaporation rates exceed surface and groundwater recharge rates. Evapo-concentration of surface water and groundwater in these basins results in the concentration of dissolved salts that eventually develop saline brines. Two types of salars are classified by Houston et al. (2011)[11]:(1) mature, halite dominant, and (2) immature, clastic dominant. Kachi appears to be transitioning from an immature, clastic dominated salar, to a more mature system with the beginning formation of a surficial salt layer with halite that extends to several meters in depth.

The salar sediments are predominantly intercalated sands and clayey silts (**Figure 5**), which constitute a leaky aquifer, with the entire sequence of sediments potentially contributing brine flow to wells. Higher brine flows are obtained from intervals with high sand content and higher permeability, with the brine grades generally comparable between geological units. The salar is surrounded on all sides by alluvial and aeolian fans of varying dimensions and significance. Most important are the Western Fan Complex and the South Fan (**Figure 5**) that intercept coarse-grained sediments that contain lithium bearing brines. The North Fan is also important due to the presence of both coarse-grained sediments containing lithium bearing brines and a substantial freshwater aquifer. This freshwater overlies the lithium bearing brine.

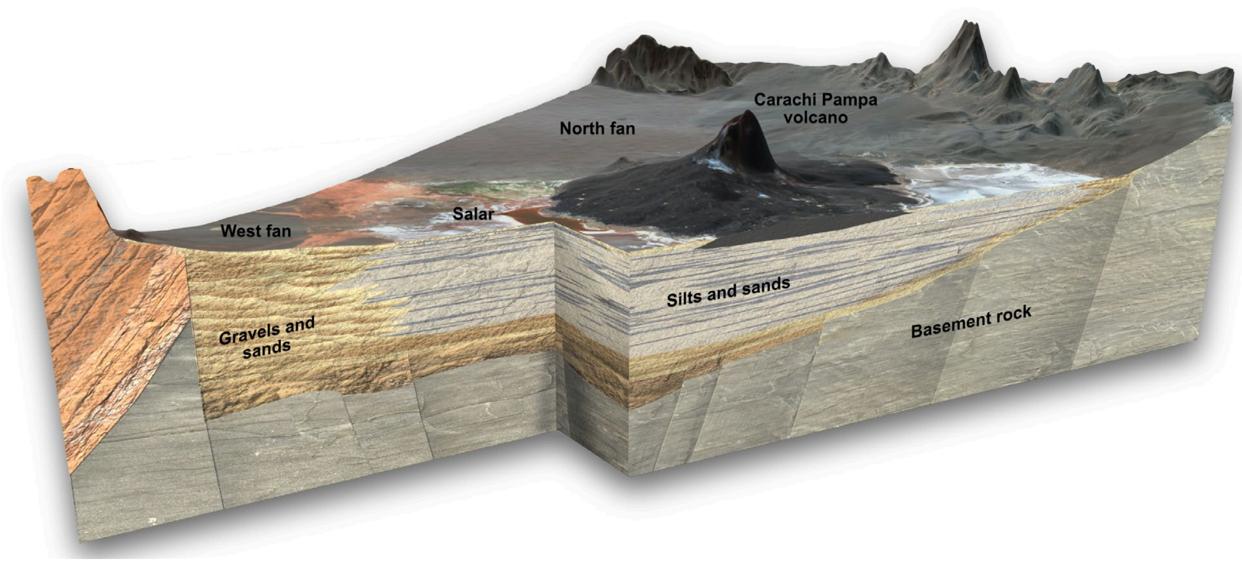

Figure 5. Conceptual hydrogeologic section through the Kachi Project, looking towards the northeast.

[11] Houston, J., Butcher, A., Ehren, P., Evans, K., and L. Godfrey. The Evaluation of Brine Prospects and the Requirement for Modifications to Filing Standards. Economic Geology, v. 106, pp. 1225–1239

MINERAL RESOURCE

An updated resource estimate was released in November 2023[12] and was based on the substantial hydrogeological characterization since the last update in June 2023[13].This update provided refined interpretations of the hydrostratigraphy, hydrogeology, and hydrogeochemistry. For details of the Mineral Resource estimate, readers are referred to the November 22, 2023 ASX announcement and the detailed report included in the Appendix[14] of that announcement. A summary of the Mineral Resource is provided in **Table 2** and details of the Mineral Resource classifications are presented in **Table 3**. A plan view map of the Mineral Resource classifications is provided for 0 to 400 m bgs (**Figure 6**) and 400 to 600 m bgs (**Figure 7**), and in 3-dimensions (**Figure 8**).

Table 2. Kachi Project Mineral Resource Summary[15]

Resource Category	Lithium (Tonnes)	LCE (Tonnes)
Measured (M)	571,000	3,035,000
Indicated (I)	800,000	4,258,000
M & I	1,371,000	7,293,000
Inferred	630,000	3,352,000
Total Resource	**2,001,000**	**10,645,000**

[12] See LKE ASX Announcement dated 22 November 2023

[13] See LKE ASX Announcement dated 16 August 2023 t

[14] Groundwater Exploration Services, 2023, Kachi Resource Estimate Detailed Report. Attachment to November 22 2023 ASX Lake Resources Announcement.

[15] Consider notes and details in Table 3 Updated Resource Estimate of Contained Lithium

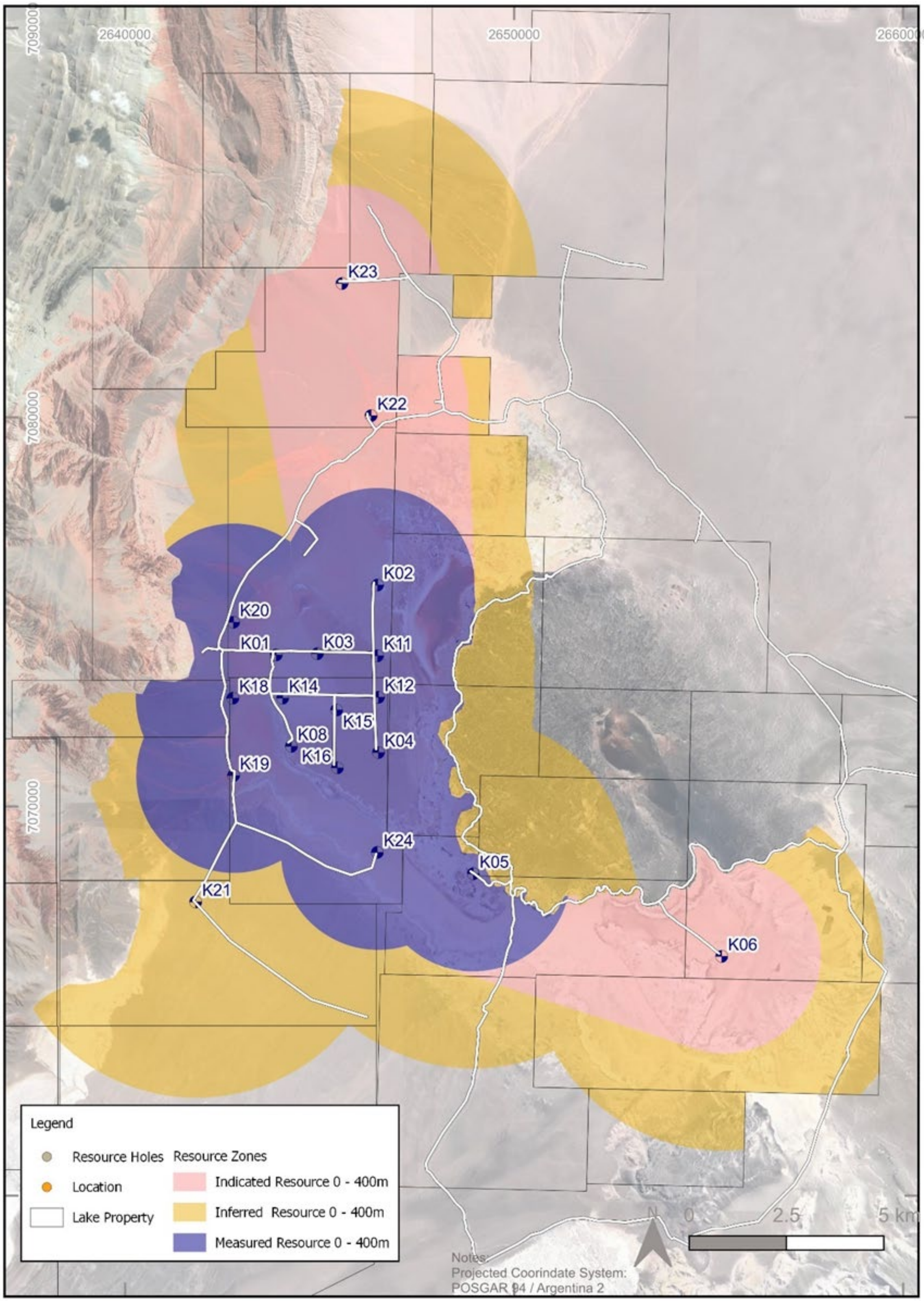

Figure 7 Plan view map of the Indicated Resources (rose), with the surrounding area of Inferred Resource (orange) at a depth of 400 – 600 m

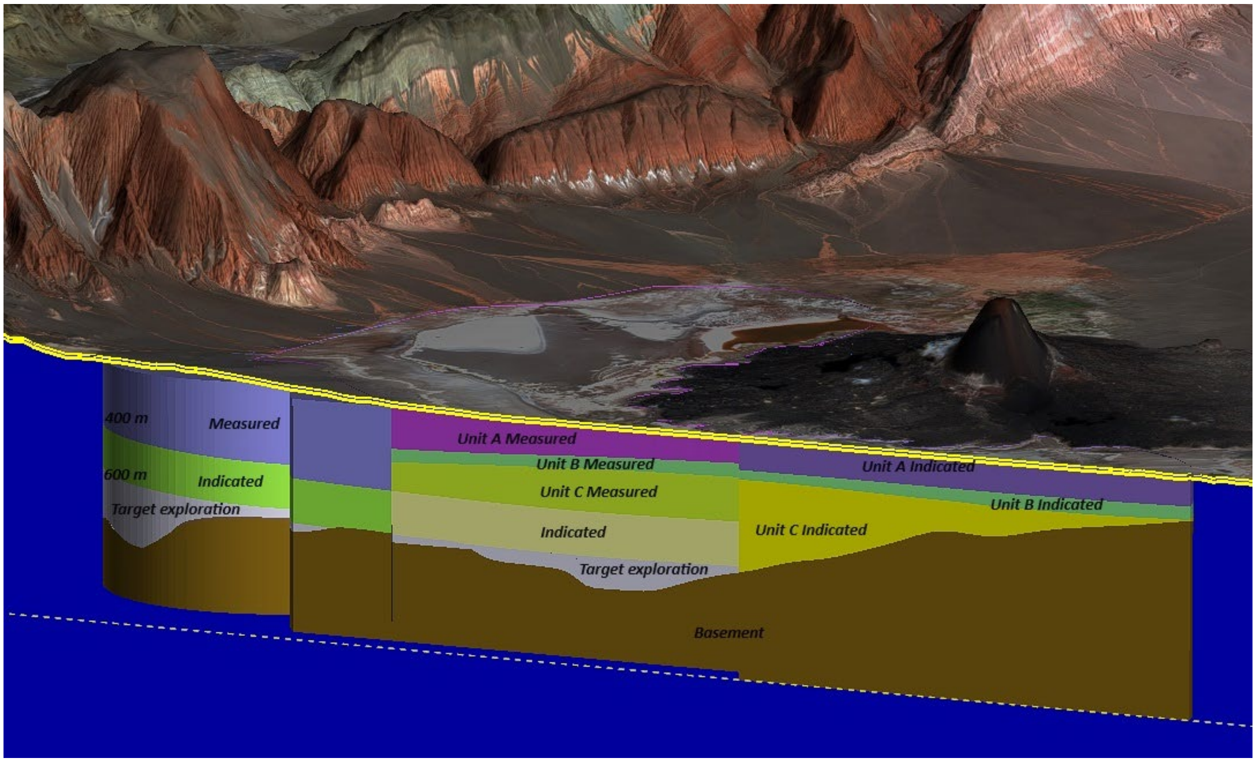

Figure 8. Resource Classifications, looking north through the Resource area.

Table 3 Updated resource estimate of contained lithium

Unit	Sediment Volume m^3	Specific Yield %	Brine volume m^3	Liters	Li mg/L	Li grams	Li Tonnes	Tonnes LCE
Measured November 2023 (to 400 m depth)								
A	11,001,000,000	0.078	858,078,000	858,078,000,000	210	179,783,644,000	180,000	956,000
B	4,366,100,000	0.081	352,090000	352,090,162,000	229	80,628,647,000	81,000	429,000
C	8,007,400,000	0.068	544,503,000	544,503,200,000	230	125,427,401,000	125,000	667,000
Fan West	8,833,000,000	0.095	839,135,000	839,135,000,000	220	184,609,700,000	185,000	982,000
Total	**32,207,500,000**	**-**	**2,593,806,000**	**2,593,806,362,000**	**-**	**570,449,393,000**	**571,000**	**3,035,000**
Indicated November 2023 to 600 m								
Unit	**Sediment Volume m^3**	**Specific Yield %**	**Brine volume m^3**	**Liters**	**Li mg/L**	**Li grams**	**Li Tonnes**	**Tonnes LCE**
A (South)	3,694,300,000	0.076	278,924,000	278,924,452,000	181	50,485,326,000	50,000	269,000
B (South)	1,489,000,000	0.075	111,543,000	111,543,670,000	179	19,959,624,000	20,000	106,000
C (South)	4,382,400,000	0.067	294,407,000	294,407,879,000	182	53,582,234,000	54,000	285,000
A (North)	3,075,200,000	0.095	292,144,000	292,144,000,000	232	67,891,052,000	68,000	361,000
B (North)	4,294,400,000	0.095	407,968,000	407,968,000,000	241	98,166,484,000	98,000	522,000
C (North)	9,188,400,000	0.092	845,333,000	845,332,800,000	182	206,021,447,000	206,000	1,096,000
400 – 600m Under Salar	12,230,170,000	0.066	806,922,000	806,922,156,000	242	195,275,162,000	195,000	1,039,000
400 – 600m West Fan Deep	4,858,200,000	0.092	446,954,000	446,954,400,000	244	109,056,874,000	109,000	580,000
Total	**43,212,070,000**		**3,484,197,000**	**3,484,197,358,000**		**800,438,203,000**	**800,000**	**4,258,000**
Combined Measured and Indicated								
	75,419,570,000		**6,078,004,000**	**6,078,003,721,000**		**1,370,887,596,000**	**1,371,000**	**7,293,000**
Inferred November 2023								
Unit	**Sediment Volume m^3**	**Specific Yield %**	**Brine volume m^3**	**Liters**	**Li mg/L**	**Li grams**	**Li Tonnes**	**Tonnes LCE**
A	4,756,500,000	0.080	378,325,000	378,325,351,000	185	69,975,435,000	70,000	372,000
B	1,671,300,000	0.079	131,198,000	131,197,886,000	191	25,101,960,000	25,000	134,000
C	5,287,600,000	0.074	393,746,000	393,746,422,000	218	85,950,119,000	86,000	457,000
Fan North	8,895,490,000	0.081	716,324,000	716,324,455,000	232	166,081,974,000	166,000	884,000
Fan South	12,248,490,000	0.064	781,249,000	781,249,112,000	239	186,718,538,000	187,000	993,000
Under volcano	6,718,700,000	0.074	500,471,000	500,471,260,000	192	96,334,211,000	96,000	512,000
Total	**39,578,080,000**		**2,901,314,000**	**2,901,314,485,000**		**630,162,237,000**	**630,000**	**3,352,000**

- JORC definitions were followed for Mineral resources.
- The Competent Person for this Mineral Resource estimate is Andrew Fulton, MAIG.
- No internal cut-off concentration has been applied to the resource estimate. The resource is reported at a 150 mg/L cut-off.
- Some numbers do not add due to rounding.
- Specific Yield (Sy) = Drainable Porosity.
- Lithium is converted to lithium carbonate (Li2CO3) with a conversion factor of 5.32. For details on the lithology units please refer to the June 15, 2023, August 22, 2023, and October 4, 2023 ASX announcements.

Ore Reserve Estimation

An 'Ore Reserve' is the economically mineable part of a Measured and/or Indicated Mineral Resource. It includes diluting materials and allowances for losses, which may occur when the material is mined or extracted and is defined by studies at Pre-Feasibility or Feasibility level as appropriate that include application of Modifying Factors. Such studies demonstrate that, at the time of reporting, extraction could reasonably be justified[16].

The methodology used to develop estimates of the Mineral Resource Is different from the method used to develop estimates of the brine Ore Reserve. The block (LeapFrog) model, which considers static conditions, is used in estimating the Mineral Resource but cannot estimate the (fluid) brine reserve. The Ore Reserve estimate is based on extraction of the brine that is transmitted in the subsurface in response to well field pumping. As a result, a calibrated hydrogeological model (simulating flow and solute transport) is the most appropriate tool to estimate the brine Ore Reserve through time. This model is described below.

Numerical Hydrogeological Model Development

A numerical hydrogeologic model ("Model") has been developed by a collaboration between consultants (Watershed HydroGeo and GES) and the Lake Resources technical team. The Model is a fundamental tool for understanding the hydrogeological system, simulating the brine extraction, and providing quantified estimates of hydrogeological system behaviour as a result of that extraction. Additionally, given that DLE is proposed at Kachi, the spent brine will be returned to the hydrogeologic system in approximately the same proportions that the brine is pumped out of the system. This dynamic interaction of lithium brine extraction with concurrent injection of spent brine is simulated in the Model.

The overall Model objectives for the Project are to:

- Evaluate various extraction and injection well field layouts and designs to determine which options are preferred for efficient and effective operations.
- Verify that planned extraction and injection well designs and the mine plan meet production and injection targets.
- Quantify lithium mass through LoM for the proposed well field.

[16] The JORC Code 2012 Edition. Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves. Effective 20 December 2012. Prepared by the Joint Ore Reserves Committee of The Australasian Institute of Mining and Metallurgy, Australian Institute of Geoscientists and Minerals Council of Australia (JORC)

- Evaluate the effects of spent brine injection and/or natural processes (i.e., capturing of lower concentration lithium brine and/or freshwater dilution) on recovered lithium grades and mass through LoM.
- Provide a means for testing various injection well field design scenarios to determine optimal solutions related to minimizing lithium grade dilution and extraction-related effects in environmentally sensitive areas.
- Provide estimates to inform Lake Resources of the likely changes to the hydrogeologic system that may result from operation of the extraction and injection well fields from Year 1 to Year 25 including:
    - drawdown in the production horizons and at the phreatic surface;
    - changes to baseline fluxes and total dissolved solids in sectors of environmental significance; and
    - evaluate post-closure conditions and recovery of the hydrogeologic system.
- Simulate proposed freshwater wells for raw water supply to evaluate whether design yields can be achieved and predict how water use during operations may impact freshwater quantity or quality, if at all.

This model assessment has been undertaken with consideration of the Australian Groundwater Modelling Guidelines ("AGMG")[17]. The AGMG was adopted throughout the groundwater industry as a benchmark for best practice.

Model design

Modelling software

For the modelling presented here, the public domain numerical groundwater modelling software MODFLOW-USG-Transport[18] v2.02.1 was used. This is an advanced version of the industry-standard MODFLOW-USG code[19] that was originally developed (and is still supported) by the United States Geological Survey (USGS).

Pre-processing and some of the post-processing of model inputs and outputs were carried out via the Groundwater Vistas[20] (v8) graphical user interface, along with executables from the PEST suite[21] of Groundwater Utilities.

The SMS numerical solver was used with head closure criteria 0.01 m and a tighter criteria of 1×10^{-7} m was used for inner iterations to minimize flow and solute transport mass balance errors.

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[17] Barnett B, Townley LR, Post V, Evans RE, Hunt RJ, Peeters L, Richardson S, Werner AD, Knapton A and Boronkay A., 2012. Australian Groundwater Modelling Guidelines. National Water Commission

[18] Panday, S. 2023. MODFLOW-USG-Transport (v2.2.1). GSI. Available at: http:// http://www.gsi-net.com/en/software/free-software/USG-Transport.html

[19] Panday S, Langevin C, Niswonger N, Ibaraki M, and Hughes J.2013. Chapter A45: MODFLOW-USG Version 1: An unstructured grid version of MODFLOW for simulating groundwater flow and tightly coupled processes using a control volume finite-difference formulation. U.S. Geological Survey Techniques and Methods, Book 6, 66

[20] ESI, 2020. Groundwater Vistas (v8). https://www.groundwatermodels.com/ESI_Software.php

[21] Doherty, J. (2010). Pest: Model-independent parameter estimation, user manual. In Watermark Numerical Computing (5th ed.). PEST Manual. and Doherty, J. (2015). Calibration and uncertainty analysis for complex environmental models. Brisbane, Australia: Watermark Numerical Computing

Model variants

Three versions of the Model were developed for different purposes. All three have consistent model domain or extent, consistent layer geometry, and consistent boundary conditions, other than time variant boundaries. These three models are:

- catchment-processes model (longer term historical /calibration model to capture basin scale processes and laguna fluctuations);
- pumping-test model (short-term, local scale calibration model focused on the salar); and
- predictive model (for forecasting mine operations).

The reason for the first two is to focus on longer-term seasonal or annual processes and have a separate model that employs a higher temporal resolution to focus on two pumping and injection tests carried out by Lake in mid-2023.

Solute transport and density-dependent flow

All model variants simulate two solute transport species (total dissolved solids, TDS and Lithium, Li). They simulate density-dependent flow which is important in this area where fluid density varies from 1.0 (freshwater) to 1.23 kg/L (brine) at a TDS concentration of approximately 375 g/L (hypersaline brine). All three models also use the same initial concentrations of TDS and Li to initialize the solute transport component.

MODFLOW-USG modifies the input (freshwater) hydraulic conductivity (K) based on the density of the fluid simulated in each cell, which means that the effective K in the centre of the salar where brine is present is typically 20% greater than the input freshwater K. Note that subsequent reported values are all freshwater K values.

Temporal discretization

The model simulation is broken into three main stages, which include:

- Catchment Model which includes a historical record for January 2023 to August 2023.
- Aquifer Testing undertaken on installed test wells in March through June 2023.
- Predictive modelling; LoM year 1 to year 25 and closure from year 25 to year 50.

Table 4 describes the Stage 1 and Stage 2 which include the calibration components. The pumping test model employs initial heads from the catchment-model. The model(s) also employ adaptive time-stepping to assist with numerical convergence and mass balance.

Table 4. Summary of calibration model temporal discretization

Stage		Stress periods	Description
Catchment model	Initialization period	1 and 2	SP 1 = steady state period of average recharge conditions, but modified discharge conditions to facilitate numerical solution. Nominally this is a 1-day period 1-Jan-2000. SP 2 = transient stress period covering 2-Jan-2000 to 31-Dec-2015, simulating average conditions.
	Historical transient period	3 to 50	Multiple stress periods, most of which are ~3 months long, but shorter in 2023 to accommodate pumping tests and recovery periods, and a recent recharge event.
	Total period	**1 to 50**	**1/1/2000** to **30/09/2023**
Pumping test model			Stress periods variable from 0.25 days to 14 days, including:
	K12 pumping	2-16	15 SPs to simulate K12R34 pumping (04/03-20/03/2023)
	K11 pumping	27-42	16 SPs to simulate K11R29 pumping (21/04-12/05/2023)
	Total period	**1 to 50**	**04/03/2023** to **25/05/2023**

Model domain and discretization

The model covers the majority of the floor of the Carachi Pampa Basin, which is elongated in a north-south direction extending 19 km to the north and 22 km to the south-west of Carachi Pampa volcano. The model extends 47 km in a north-south direction and approximately 25 km east-west at the widest point (**Figure 9**). The area of the active model domain is 942 km^2.

The Model utilises a structured (rectilinear) grid, but an unstructured grid was used two model variants to improve the accuracy of local scale processes near the wells and environmental receptors and to improve the accuracy of transport simulations.

With regards to the three variants of the numerical model:

a. The “**broad catchment model**” employs a consistent grid size of 200 m across the model domain.

b. The “**pumping test model**” was refined using the quadtree data structure technique around the K11 and K12 wells for simulating drawdown the pumping and injection tests conducted during early 2023[22] (**Figure 9**).

c. The “**predictive model**” has significantly more quadtree refinements around the proposed extraction and injection well field and the laguna (for the purpose of assessing changes to groundwater pressure changes and lithium brine concentrations).

d. The catchment model (uniform grid-spacing) has 268 rows and 200 columns with 259,921 active cells.

[22] See LKE ASX Announcement dated 16 August 2023 t

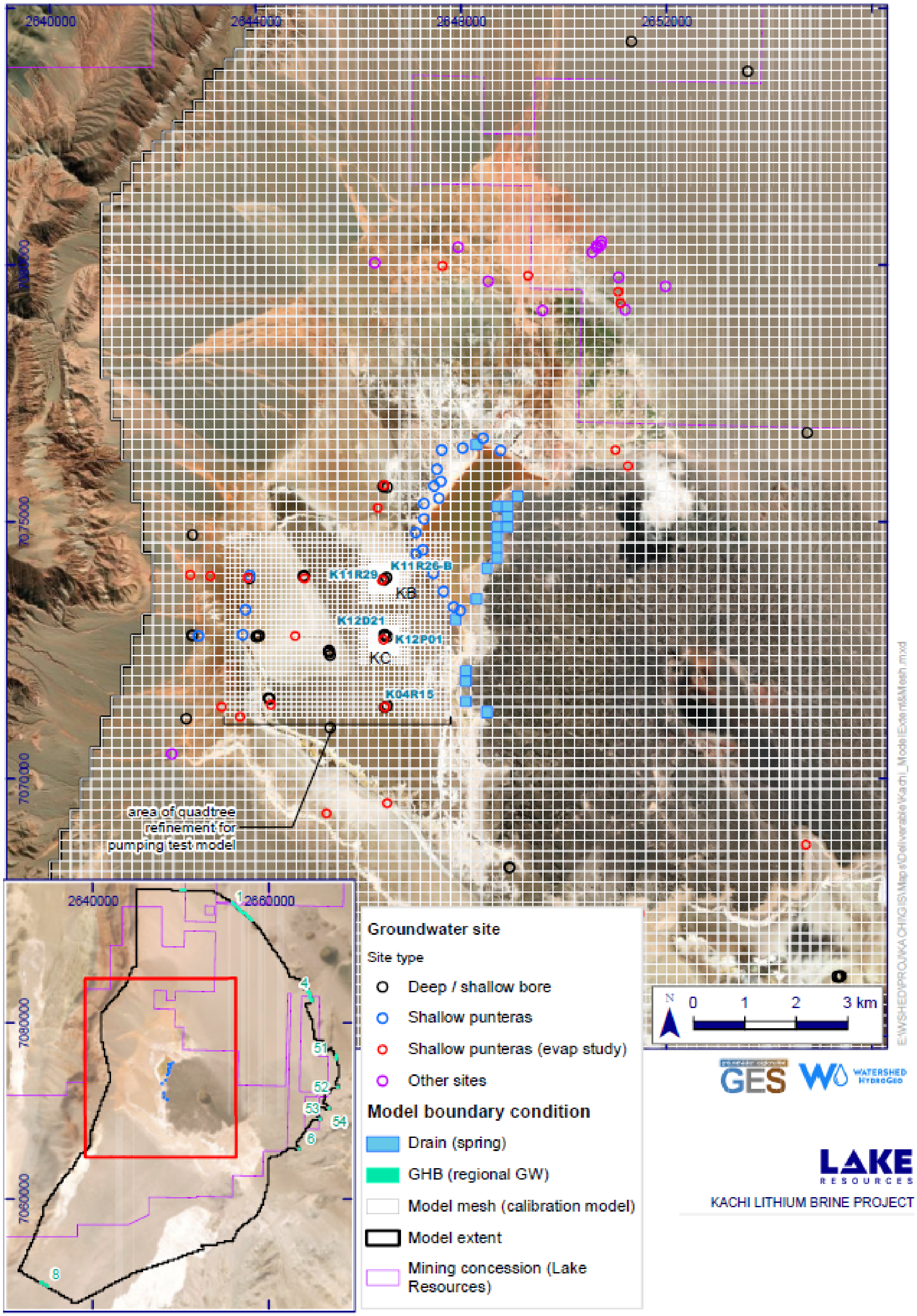

Figure 9. Groundwater model extent and mesh (pumping test model)

The pumping test model is similar, with the additional areas of quadtree refinement (see **Figure 9**) down to 25-meter spacing around K11 and K12, totalling 299,701 active cells.

Model layers

The model comprises of 15 layers which represent variable stratigraphy laterally and vertically as set out in **Table 6**, and based on the hydrostratigraphic units which are directly related to the resource geological model. Additional layers were added for improved numerical resolution including vertical hydraulic gradients in the salar and to minimize dispersion in contaminant transport modelling. Layer thicknesses are variable, except for the basement where a nominal 200 m thickness is simulated. The lower layers are based on geophysical interpretation and lithology logs.

The top of layer 1 is based on the Digital Elevation Model ("DEM") developed for the modelling study. This is a combination of local survey data (by Lake's surveyors) stitched into publicly-available ALOS3.2 regional DEM data. The contact between layers 3 and 4 represents the interpreted base of the freshwater / brackish water layer and is therefore variable in thickness, with the greatest thickness occurring in the north and northeast areas of the domain.

Boundary conditions

Model boundary conditions are marked on **Figure 9**, and a summary is presented in **Table 5**, with some further discussion below.

As noted, the laguna is represented in the groundwater model as a zone of high K and high Sy. The geometry of the laguna is represented by the base of layer 1 in the relevant area. Separately, a water balance model has been developed to simulate the stage-area-volume relationship of the laguna using climatic and hydrological inputs on a daily time-step. Results from this model are used with the other models to better estimate potential effects, (e.g., flux changes estimated by the groundwater model can be input to the water balance model to understand what those fluxes mean in terms of reduced lake stage).

Discharge of water from the basin is through evapotranspiration, and the average total evaporative flux has been estimated at approximately 55-90 ML/d (630-1,040 lps). The zonation of the model EVT zones is presented on **Figure 10**. Evaporation rates applied to zones were informed from an evaporation study undertaken by Atacama Water Consultants[23]. A review of the water balance methodology and an independent Water Budget Assessment was undertaken by Lithium Solutions[24].

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[23] Atacama Water, 2022. Kachi Project - Soil evaporation measurements, wet season 2022. April 2022.

[24] Lithium Solutions, 2023. Hydrophysical Water Budget Assessment and Hydrogeochemical and Isotopic Tracing of Water Source and Transit in Carachi Pampa Basin, Argentina.

Table 5. Summary of model boundary conditions

Environmental Process	Type	Comments	
Regional Groundwater Flow	GHB	Regional groundwater inputs at northern, north-eastern, eastern, and southern boundaries of the basin, based on recommendations from Lithium Solutions. GHBs situated in model layers 2, 3, and 4, and labelled on Figure 9 with model reach number, based on Lithium Solutions water balance zones.	
Recharge	RCH	Diffuse recharge estimate provided by Lithium Solutions, with temporal multiplier based on Houston (2009)[25] arid-basin recharge model using NASA climate data (via Giovanni – a NASA information service) as an input.	
Evapotranspiration	ETS	Evapotranspiration based on analysis of Atacama Water Consultants (2022) Dome Study, remote sensing geospatial data, and climate data from NASA (see below). Uses segmented curves for ET vs depth (Figure 10). More detail presented below.	
Springs	DRT	Springs represented using Drain-Return (DRT) to simulate discharge groundwater into the laguna	DRT in layers 2 to 4, returning flow to laguna in layer 1
Watercourses	--	No watercourses simulated	
Laguna	--	Not simulated using a boundary condition; represented using zones of high K and high Sy model cells.	
Groundwater pumping	WEL + CLN	The Connected Linear Network (CLN) function combined with the MODFLOW WEL package is used to simulate extraction and injection in this model. CLNs allow better simulation of well geometry and Thiem approximation for drawdown estimates at the well itself rather than the averaged cell value.	

Note: Modflow USG boundary condition packages used include:

GHB – General Head Boundaries

RCH – Recharge package

ETS – Segmented Evapotranspiration package

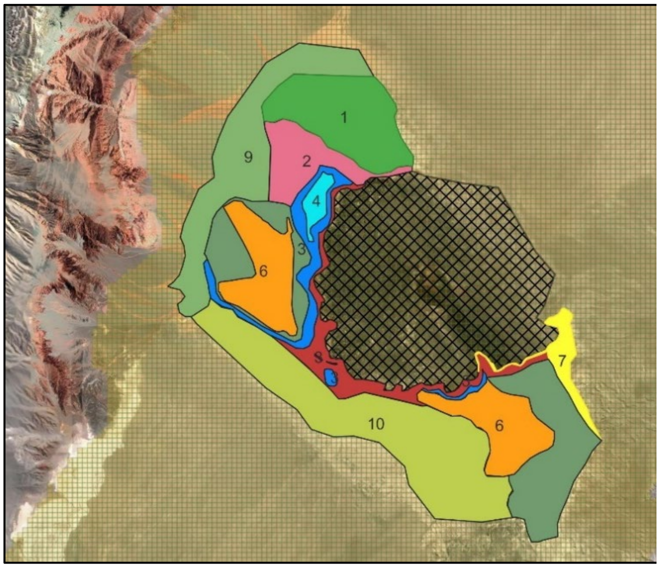
DRT – Drains package.

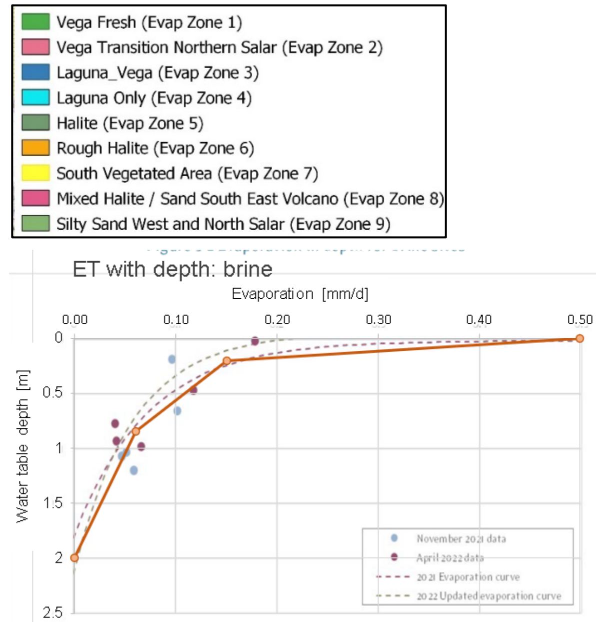
Wel – Well package.

CLN – Connected Linear Network well package.

[25] Houston J, 2009 A recharge model for high altitude, arid, Andean aquifers. Journal of Hydrological Processes. 23, 2009.

23) ETS Zonation





B) ETS segmented approach to extinction depth (brine):

Figure 10. Model evaporation zones and ET depth function (from remote sensing and evaporation study)

Table 6. Groundwater model layering

GW Model Layer	Thickness at salar (m)	Description / Lithology				Hydro Unit ID
		South	Volcano	Central	North	
1	5	Ignimbrite	Basalt flows and air fall	Laguna (thickness = 0.6-1.2 m)	Sandy Gravel	**0**
2	10	Ignimbrite	Basalt flows / air fall	Silty Sand / Clay	Sandy Gravel	
3	10	Ignimbrite	Basalt flows and air fall	Silt /Clay. Minor Sand	Sandy Gravel Base of fresh – brackish water in northern / eastern fans	(0 – 25m)
4	25	Ignimbrite	Predominantly Silt and Clay	Predominantly Silt and Clay	Sand / Gravel	**A**
5	50	Ignimbrite	Intercalated Sand / Silt Clays	Intercalated Sand / Silt Clays	Sand / Gravel	
6	50	Sand / Gravel		Intercalated Sand / Silt Clays	Sand / Gravel	
7	50	Sand / Gravel	Predominantly clay / silt intercalated with lesser fine sand. Base is an aquitard	Predominantly clay / silt intercalated with lesser fine sand. Base is an aquitard	Sand / Gravel	(25 – 200m)
8	50	Sand / Gravel	Fine Sand. Minor silt & Clay	Fine Sand. Minor silt & Clay	Sand / Gravel	**B**
9	50	Sand / Gravel	Fine Sand. Minor silt & Clay. Increasing fine grained sediment with depth	Fine Sand. Minor silt & Clay. Increasing fine grained sediments with depth	Sand / Gravel	(200 – 300m)
10-12	50 each	Sand / Gravel	Predominantly clay / silt intercalated with lesser fine sand	Predominantly clay / silt intercalated with lesser fine sand	Sand / Gravel	**C** (300 – 600 m or base-ment)
13-14	Layer 13 = 100 Layer 14 = variable (max 222)	Sand / Gravel	Predominantly clay / silt intercalated with lesser fine sand	Predominantly clay / silt intercalated with lesser fine sand	Sand / Gravel	
15	Variable Max – 380	Basement	Basement	Basement	Basement	Base-ment

Hydraulic properties

Field hydraulic testing data (hydraulic conductivity and specific storage) and laboratory analyses (drainable porosity or Sy) were used to define initial estimates and appropriate ranges for hydraulic properties, with minor supplementation from literature values. For the hydrogeological modelling, these parameters include:

- Horizontal hydraulic conductivity (Kh).
- Vertical hydraulic conductivity (Kv), and for automated calibration, this is calculated using vertical anisotropy ratio (VKA), to avoid vertical Kh exceeding horizontal K. Such a situation is possible, but conceptually unlikely in this environment.
- Specific yield (Sy) and specific storage (Ss).

Model calibration to catchment-processes and multi-day pumping tests has led to the range in modelled parameters in **Table 7** (where there can be multiple zones in multiple layers for the combination of depositional environment and Resource Unit (e.g. there are multiple shallow alluvial fans). The modelled Kh values are in good agreement with those from hydraulic testing (e.g., the K11 and K12 (see **Figure 6** for locations) pumping tests in the centre of the salar in Unit B) where K is 2 to 4 m/d**Error! Bookmark not defined.**, versus the interpolated model values of 1.9 to 2.7 m/d.

Modelled alluvial Sy ranges from 5% to 10%; Unit B in the centre of the salar s 7.5 to 8%. This compares well with the core-testing and the BMR-derived estimates used in the Leapfrog model.

Table 7. Calibrated hydraulic parameters

Deposition	Resource Unit	Kh (min)	Kh (mean)	Kh (max)	VKA (min)	VKA (mean)	VKA (max)	Sy (mean)
Laguna	(open water)	1E+4	1E+4	1E+4	1E+7	1E+7	1E+7	1.00
Basalt		0.001	0.27	0.5	20	80	100	0.08
Fan	(shallow)	15	16.9	18	10	17.0	90	0.10
Transition	A	2	7.6	10	17.8	52.0	200	0.09
Salar	A	0.1	2.2	4	100	175.0	500	0.08
Fan	(intermediate)	18	18.0	18	10	10.0	10	0.10
Transition	B	6	6.0	6	30	30.0	30	0.08
Salar	B	1.9	2.2	2.7	128.6	336.2	500	0.08
Fan	(deep)	18	18.0	18	10	10.0	10	0.10
Transition	C	3	6.6	10	17.9	32.8	50	0.08
Salar	C	0.4	0.8	2	20	110.0	200	0.07
Basement		0.004	0.004	0.004	100	100	100	0.02

Solute transport parameters and settings

Dispersivity has been set to 10 m (longitudinal), 0.1 m (transverse) and 0.01 m (vertical). These values are consistent with contemporary literature (e.g., Zech et al, 2015[26]).

No retardation of solute is simulated; however, the model does employ precipitation of solute if concentration is beyond the solute solubility limit. This does not affect lithium, but the solubility limit for halite (NaCl) is used to represent a solubility limit for TDS, which is appropriate given that TDS is dominated by Na and Cl at Kachi. This functionality minimises the occurrence of concentration of salts beyond reasonable concentrations that often occurs in such models.

Model calibration

The approach to model calibration or history-matching is the adjustment of model parameters and boundary conditions to improve the model's simulation of a number of observation types.

Parameter adjustment has primarily been done manually with some limited use of automated methods via PESTPP software[27]. The focus of the calibration has primarily been on reproducing observed and measured transient processes given that model predictions are highly transient in nature.

Targets and constraints

A variety of target or observation types are used for history-matching and calibration and are summarized as follows:

Groundwater levels or pressures	There are a total of almost 100 sites for which groundwater level target values are available and used in the model calibration, both for a quasi-steady state and transient calibration.
Fluxes	Estimated evapotranspiration flux from the basin.
Lake stage elevations	A transient sequence has been inferred based on remote sensing data combined with site survey data.
Change in groundwater levels	Change in level, or "drawdown", especially the higher frequency data from the K11 and K12 pumping tests, is the focus of calibration of the pumping test model.
Lithium concentrations	Based on analysis of the brine extracted during the K11 and K12 pumping tests.
TDS	Secondary targets of TDS concentration were also examined to verify model behaviour.

[26] Zech, A. et al. (2015) 'Is unique scaling of aquifer macrodispersivity supported by field data?', Water Resources Research, 51(9), pp. 7662–7679. Available at: https://doi.org/10.1002/2015WR017220

[27] White, J.T., Hunt, R.J., Fienen, M.N., and Doherty, J.E., 2020, Approaches to Highly Parameterized Inversion: PEST++ Version 5, a Software Suite for Parameter Estimation, Uncertainty Analysis, Management Optimization and Sensitivity Analysis: U.S. Geological Survey Techniques and Methods 7C26, 52 p., https://doi.org/10.3133/tm7C26.

The groundwater level data was collected from a large network of sites, including:

- Shallow or near-surface standpipe piezometers
- Evaporation study standpipe piezometers or spear-points ("punteras")
- Additional shallow punteras, mainly located around the laguna
- Existing shallow wells within the vega
- Two open trenches
- "Deep" wells (10-600 m deep)
- Converted resource drillholes with discrete screen intervals
- Large diameter test wells
- Multi-level vibrating wire piezometers (although these are generally less reliable)

Steady-state calibration

The main focus of the steady state calibration of the catchment model was to achieve an approximate match to the groundwater levels while maintaining the estimated average evapotranspiration flux. The steady-state mass balance (**Table 8**) indicates the average modelled evapotranspiration (71 ML/d or 822 lps) matches well with the estimated range of 630 to 1,040 lps (55 to 90 ML/d).

Table 8 .Model steady-state water balance

Component	Inflow (m^3/d)	Outflow (m^3/d)	In (lps)	Out
Recharge (infiltration)	8055.3	0	93.2	0
GHB (regional groundwater flow)	63427	0	734.1	0
Drains (Spring flux)	2447.4	2447.4	28.3	28.3
ET (Evapotranspiration from groundwater)	0	71481.1	0.0	827.3
Total	**73,929.7**	**73,928.5**	**855.7**	**855.7**
Discrepancy				0.01%

Note: Values may not add due to rounding errors

Transient calibration

Transient calibration uses the same model as for the steady state, with the model run combining a single steady state stress period with successive transient stress periods.

For the catchment model, transient calibration involved simulating groundwater levels at the range of monitoring wells and used the transient lake levels inferred from remote sensing. There are a total of 1,519 transient water-level targets.

Once a reasonable match was achieved by varying hydraulic properties (primarily K, but also storage properties) and also some modification of boundary conditions and initial conditions, the focus was put on calibrating the detailed drawdown curves from the primary observation wells located near the K11 and K12 pumping wells and extracted lithium grades at the pumping wells. The K12 and K11 pumping tests had durations and rates of 15 days and 12 days and 24.5 lps and 16.0 lps, respectively. These tests are described in detail in the August 16, 2023 Lake Resources ASX Announcement.

The key model outputs to demonstrate model calibration and its applicability for predictions to inform future operation and effects at the Kachi project are presented in the subsequent sections.

Calibration statistics

A number of statistics are routinely used, as outlined in the AGMG. These statistics are reported for the two calibration models (**Table 9**) that indicate the models are capable of replicating the range of groundwater levels observed.

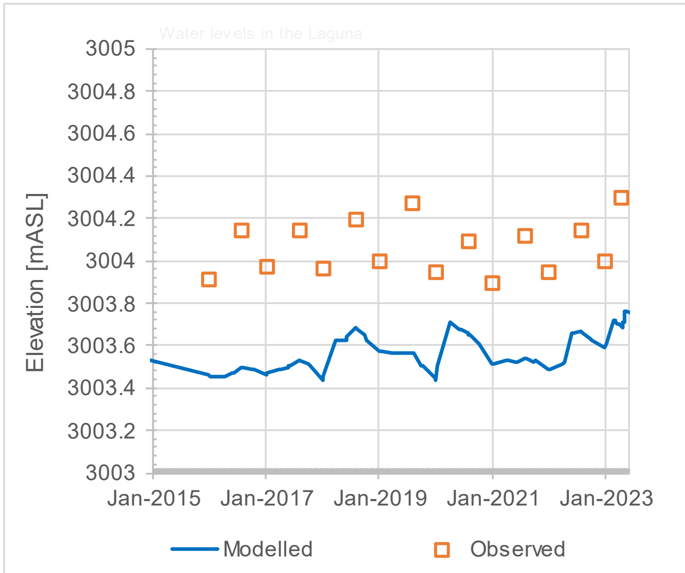
Table 9. Transient groundwater level calibration statistics

Catchment model – groundwater level calibration		
Average residual (m)	0.48	Low average residuals, consistent with relatively close match to 1:1 line on Figure 12. These statistics are un-weighted (all observations treated equally, regardless of perceived importance or quality).
Average absolute residual (m)	1.19	
RMS (m)	1.66	
sRMS (%)	5.3 %	This is within the 10% that is usually stated as acceptable (Barnett et al., 2012), although there is no defined criteria.
Pumping test model – groundwater level calibration		
Average residual (m)	0.34	Low average residuals, indicating a good match and typically <1 m discrepancy between modelled and observed.
Average absolute residual (m)	1.03	
RMS (m)	1.71	
sRMS (%)	8.9 %	This is within the 10% that is usually stated as acceptable.
Pumping test model – drawdown calibration		
Average residual (m)	0.6	This average residual is calculated for three observation sites.

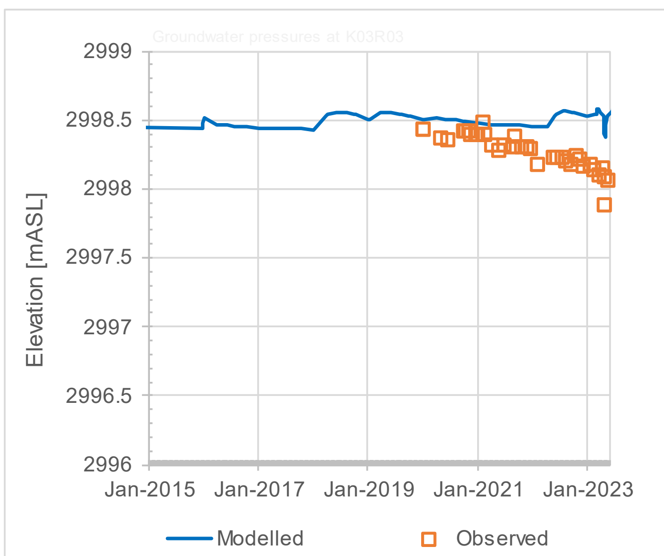
The ability of the model to reproduce to the pumping test data is important as these data best represent the types of hydraulic stresses that will be applied to the hydrogeologic system during operations (i.e., well pumping and injection). Matching the transient pumping data improves the confidence in the predictive reliability of the model. **Figure 11** shows example hydrographs of modelled and observed groundwater levels.

Groundwater levels

Model calibration involved the review of individual groundwater level hydrographs, as well as an X:Y plot which summarises modelled versus observed groundwater levels. Two example hydrographs are presented in **Figure 11**, while the summary plot (showing all transient groundwater levels) is presented in **Figure 12**.



A.) Water levels in the laguna



B.) Groundwater pressures at K03R03 (in Layer 9)

Figure 11 Example hydrographs of modelled and observed groundwater levels

The hydrographs show a reasonable match to the absolute magnitude of seasonal laguna water levels (the model underestimates by approximately 0.4 m), as well as a good match to the pressures recorded in model layer 9 in Unit B.

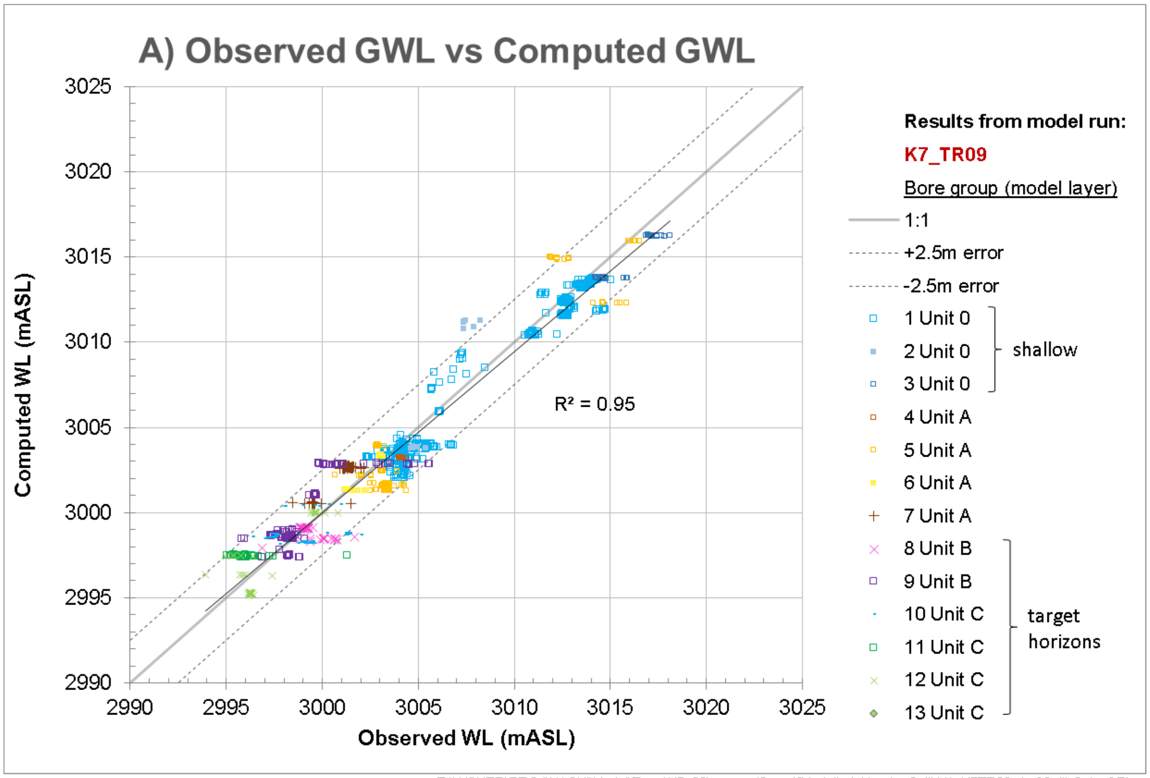


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Figure 12. X-Y plot of modelled and observed transient groundwater levels

Figure 12 indicates that the model is able to match groundwater levels and pressures across the range in observed water levels, with most modelled groundwater levels being within 2.5 m of the 1:1 line.

In addition to the above checks, modelled contoured water levels were reviewed and match the available observed and inferred piezometry that are consistent with the conceptual hydrogeological model.

Drawdown

Change in groundwater level is a key target, especially the high frequency changes observed through time from the K11 and K12 pumping tests. A summary comparison of the modelled and observed drawdown is presented in **Figure 13**.

Drawdown hydrographs from the two observation wells nearest the K11 and K12 production wells are presented in **Figure 14**. These confirm the good match to drawdown through time for the extraction phase at both wells K11 and K12, and to the injection phase for the K11 observation well.

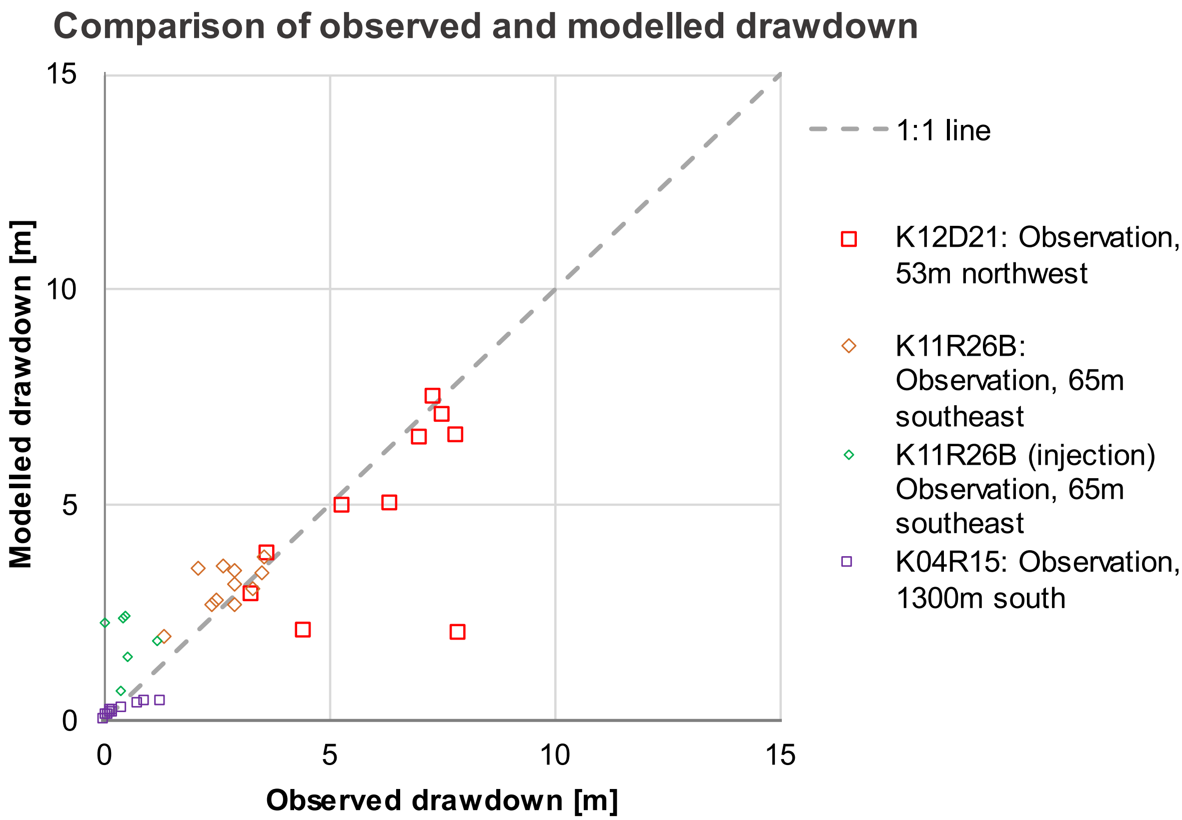
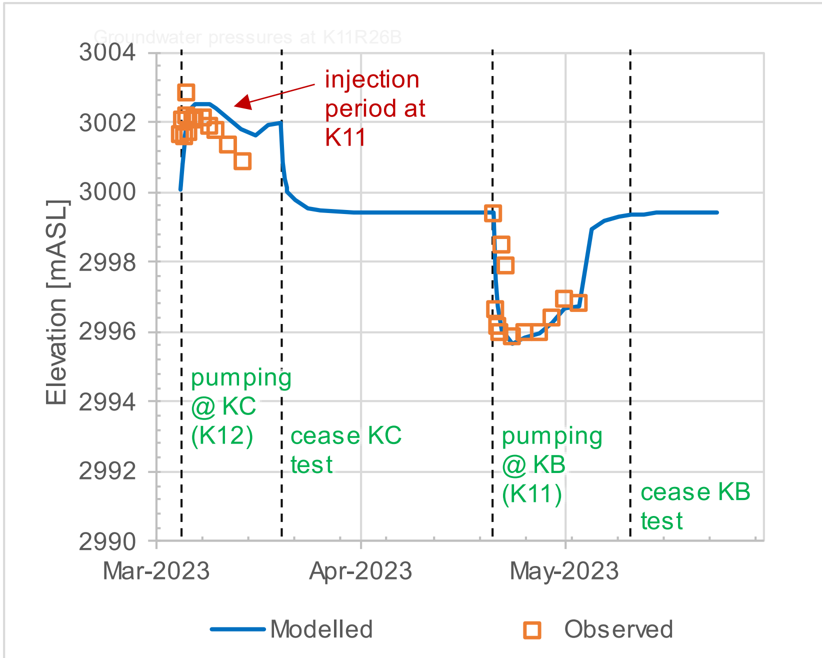
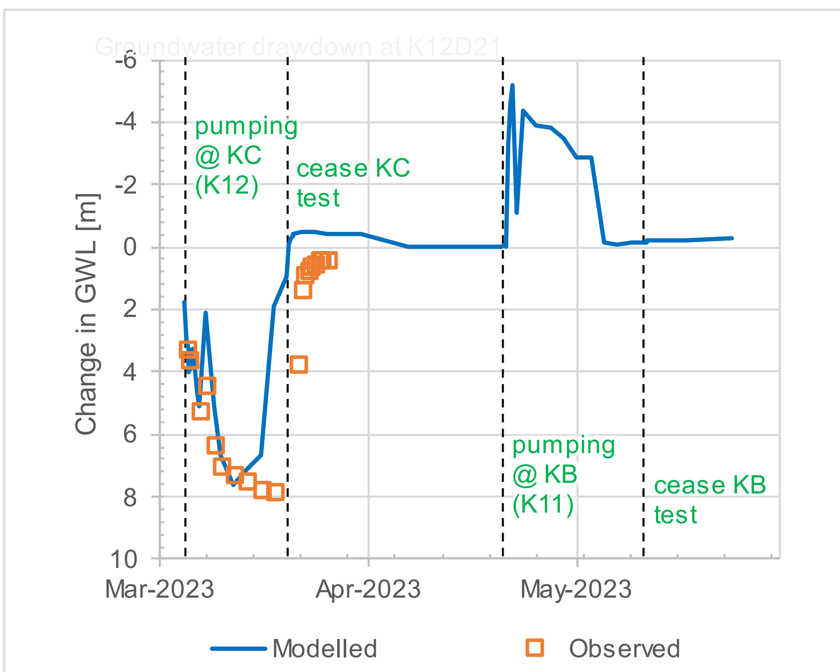


Figure 13. X-Y plot of modelled and observed drawdown from multi-day pumping tests



A.) Hydrograph for K11R26B (near K11 production bore)



A) Drawdown hydrograph for K12D21 (near K12 production bore)

Figure 14. Hydrographs of short-term change in pressures during K11/K12 tests

Lithium concentration

Given the need to predict the extraction of lithium-enriched brine for the Project, an important measure of calibration is the ability to replicate lithium grades during extended period of pumping. Lithium concentration was sampled multiple times from the extracted brine stream during the K11 and K12 tests. The average of these samples for each production bore was compared against the average of the modelled concentration extracted, as shown on **Figure 15**.

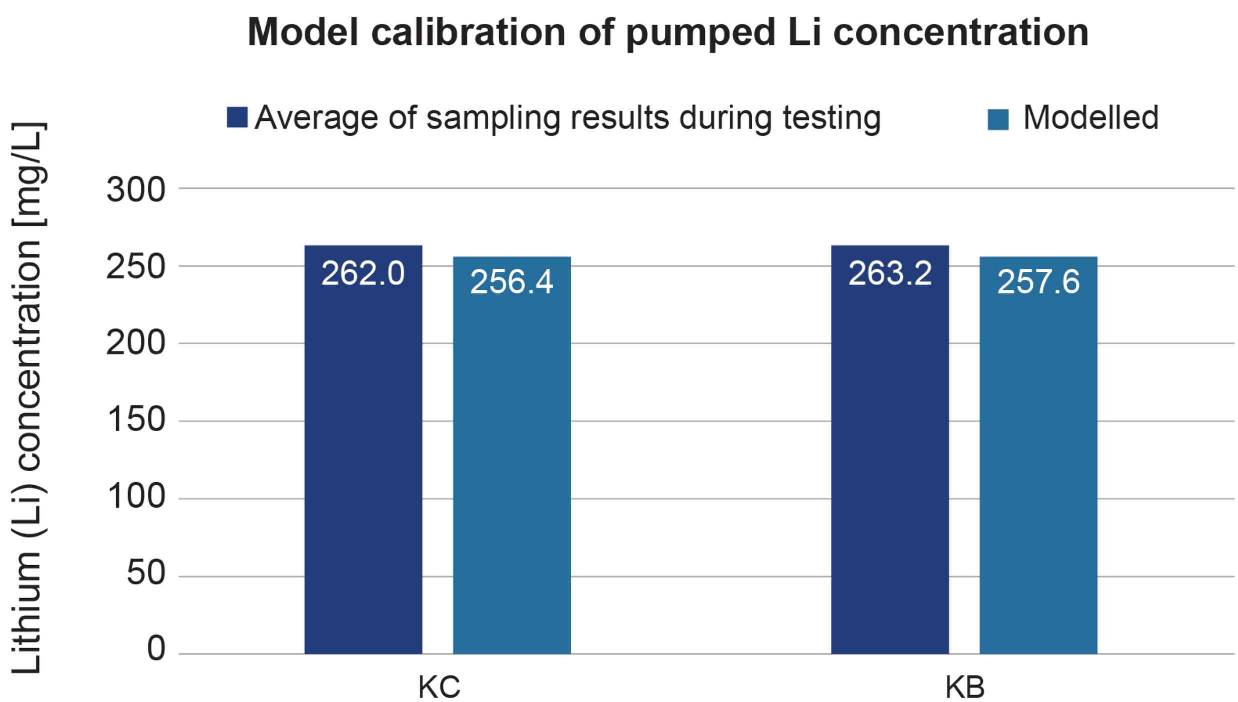


Figure 15. Comparison of modelled and sampled Li concentration at K11/K12

Figure 15 demonstrates the model's ability to simulate the extracted lithium concentrations with a high degree of accuracy.

Summary of model performance

The catchment model has a cumulative flow mass balance error of 0.06% and the transient model run has only a single timestep with mass balance error of 1.59%. These errors are within the guidelines suggested by the AGMG[28]. The solute transport mass balance error for Li is very low at <0.01%.

The ability of the model to simulate absolute groundwater levels is indicative of being an appropriate tool for simulating the hydraulics of the hydrogeological system, including the density-driven flow component. This is especially evident for the longer-term transient variation of groundwater heads in the catchment model as well as the short-term variation of heads in response to the K11 and K12 pumping tests. Additional evidence for the model to be fit-for-purpose and capable of being used as a predictive tool for

[28] Barnett B, Townley LR, Post V, Evans RE, Hunt RJ, Peeters L, Richardson S, Werner AD, Knapton A and Boronkay A., 2012. Australian Groundwater Modelling Guidelines. National Water Commission

the operational well field is that the model is constrained by the hydraulic property dataset but is able to replicate the key flux of evapotranspiration and pumped Li grades.

Predictive Modelling – Mine Plan Simulation

This section summarises the predictive modelling carried out with the hydrogeological model for the reserve analysis.

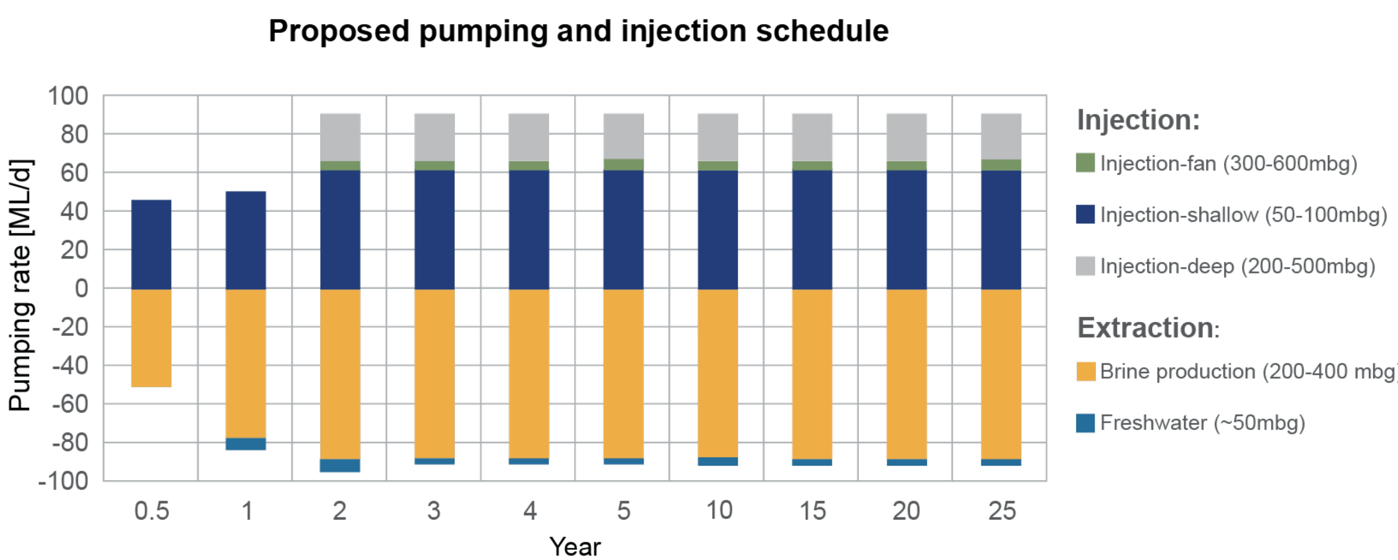
Description of the Project

The mine plan consists of a planned pumping schedule (**Figure 16**) and the well field layout shown on **Figure 17**, with the following key elements:

- 16 brine extraction wells, screened at approximately 200-400 m bgs.
- 21 injection wells but 28 wells are simulated in the Model. This is an artifact of the modeling software and results from the inability to have multiple well screens in a CLN. As a result, for the eastern injection wells CLNs are used for both the shallow and deep screens in close proximity. The simulated wells in the model include:
    - 7 eastern injectors are screened at depth, from approximately 200-500 m bgs;
    - 7 eastern injectors are screened in shallow horizons (potentially the same wells as the deep screened wells, above), from approximately 50-100 m bgs; and,
    - 14 injection wells in the West Fan, screened at approximately 300-600 m bgs.
- Three freshwater wells in the North Fan provide raw water to the plant.

The extraction and injection wells have been designed with cost-estimates at a DFS level and details of these designs are provided in the DFS[29].

Total pumping from the extraction well field is proposed to be 910 L/sec (across 14 production wells) for the first year, increasing to 1,040 L/sec for years 2-25 (summary schedule presented on **Figure 16**).



[29] See LKE ASX Announcement dated 19 December 2023 - Lake Resources Kachi Project Phase One Definitive Feasibility Study.

The design presented is optimised to recover brine from within the Measured & Indicated Resource footprint[30] while minimising potential environmental effects. Freshwater will be extracted for operational purposes at three wells located 5-8 km north-northeast of the salar. The model was used to test various well field layouts and production/injection schedules.

Predictive model configuration

The model mesh was refined further around the brine production and injection well field using a quadtree approach (**Figure 17**). This was done to improve the accuracy of the simulation of the well field. The model mesh and temporal discretization were modified with regard to the Courant and Peclet criteria, which are guidance for designing hydrogeologic transport models.

The horizontal mesh is consistent through all model layers and results in a total of 581,599 active model cells, which is about twice the cells used in the calibration models.

The predictive model uses one stress period to simulate a run-up to Project commencement and then ten stress periods to simulate the 25-year LoM. Early stress periods for the first five years of production consist of 6 semi-annual and annual schedules, followed by four 5-year stress periods. This is then followed by a further four stress periods to simulate a 25-year post-closure period.

Model results are expected to be more reliable in the short-term (e.g., 5 to 7-year horizons), and less accurate in the longer-term. As new data is gathered and the model is refined, reliability of longer-term forecasts will improve.

Sensitivity analysis

A series of deterministic scenarios were developed of modifying (increasing and decreasing) individual hydraulic or solute transport properties in the model within realistic ranges. These parameters are horizontal hydraulic conductivity (Kh) of the pumping horizon, the vertical hydraulic conductivity (Kv) of the aquitard above the pumping horizon, specific yield (Sy) of the pumping horizon, Kh of the alluvial fans, and dispersivity of the pumping horizon. This was used to understand the potential range of pumping rates during lithium production, groundwater drawdown, and changes in fluxes related to parameter uncertainty.

[30] GES 2023, Kachi Resource Estimate Detailed Report. Attachment to November 22 2023 ASX Lake Resources Announcement.

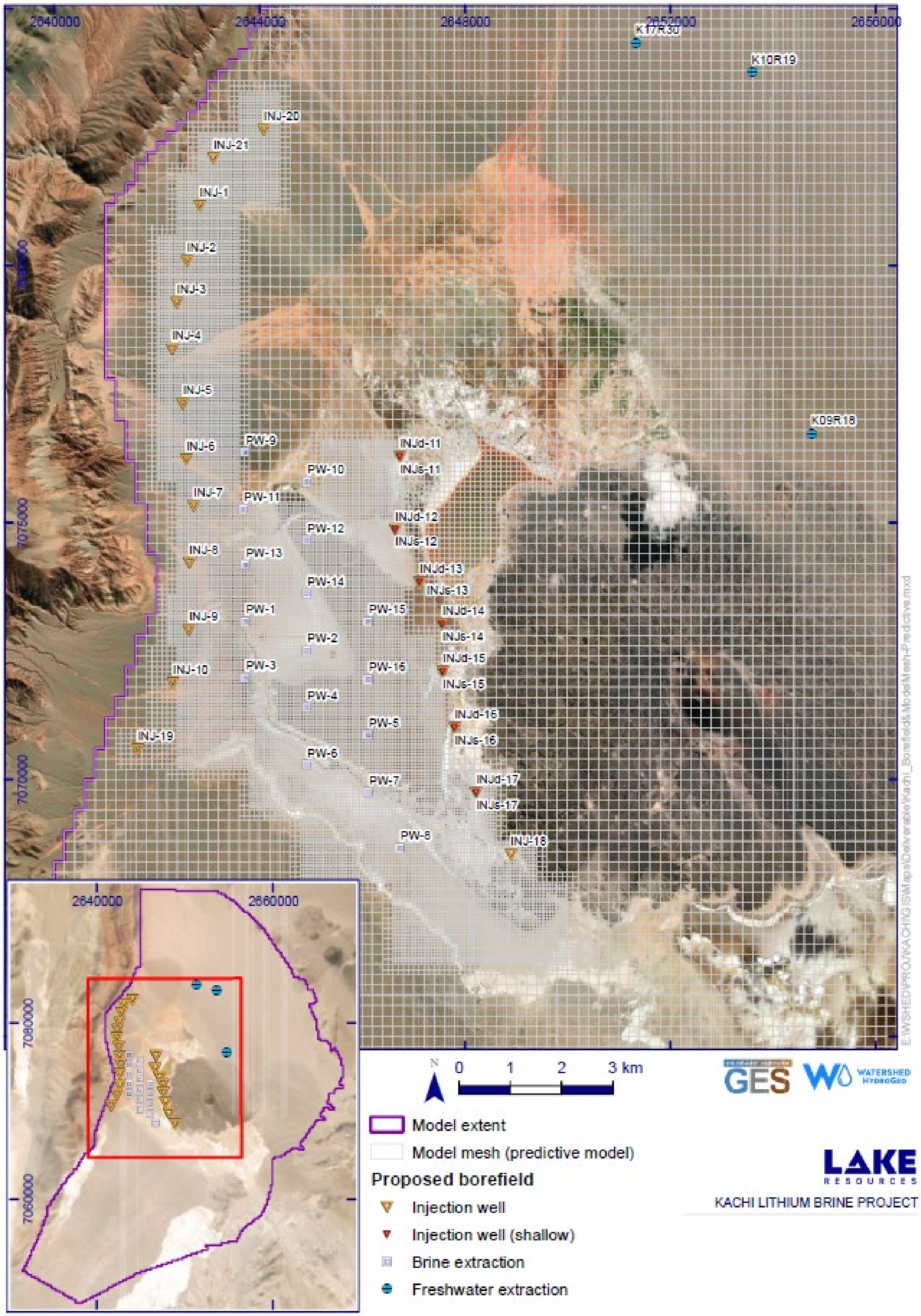


Figure 17. Well field layout and groundwater model mesh (predictive model)

Lithium Extraction and LCE production

Based on the simulated flow rates and lithium concentrations, the well field can support feed for an average LCE production of approximately 32,300 tpa for the 25-life of the project or 806,300 t over the 25-year LoM. The base case estimate for theoretical annual LCE production from the feed brine ranges from 33,700 tpa in year two to 30,500 tpa in year 25. These values exceed the target production to account for plant downtime and a factor-of-safety in the modelling predictions.

Predicted average Li concentration is 259 mg/L in year one, 255 mg/L in year seven (a 1.5% decline), and 232 mg/L in Year 25 (10.1% decline).

These values exceed the target production to account for plant downtime and a factor-of-safety in the modelling predictions.

Freshwater supply

The model used to estimate drawdown at the three freshwater production wells to be used during operations. Freshwater extraction from these wells is proposed to be higher in the first two years of the project life and then decline, which will occur following implementation of water recovery infrastructure scheduled to be commissioned in Q4 of year two. The model predicts peak drawdown would be approximately 1.3 m after two years, which does not pose a risk to bore yield nor to the potential for upwelling of brine into the freshwater aquifer.

Hydrogeologic impacts over the LOM

The model has been used to estimate drawdown and associated changes in flux and water quality that might be induced as a result of brine extraction and the injection.

Groundwater depressurization and drawdown

In the centre of the well field, groundwater depressurisation in Unit B is predicted to be approximately 20 m after 25 years (**Figure 18**). Recovery is expected within 5-10 years across most of the well field, which includes residual mounding from injection simulated by the model.

Maximum drawdown of the phreatic surface is predicted to be approximately three m, which is substantially less than the 20 m of depressurization of Unit B. The centre of the phreatic surface pumping cone of depression is further to the south from the centre of the Unit B pumping cone of depression (**Figure 19**). There is negligible drawdown at the southern edge of the laguna.

Modelling suggests the injection should be effective at mitigating phreatic surface drawdown and the scope for the injection rates will be managed in response to monitored water levels. The Data Management System as described in the Adaptive Management Plan will ensure real-time monitoring at key locations with adjustments to operations as necessary to mitigate potential impacts to sensitive areas.

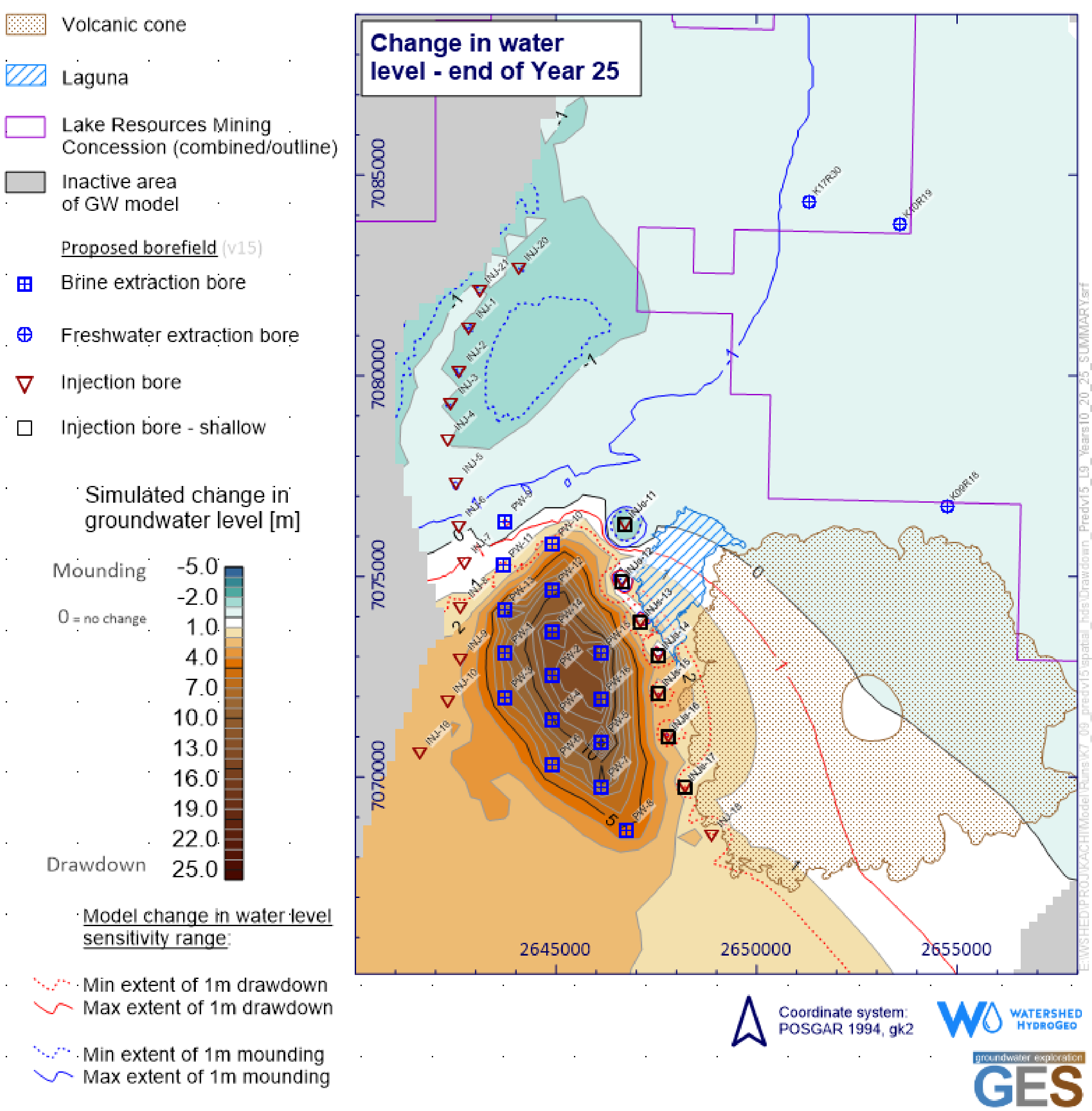


Figure 18. Simulated drawdown in the pumping horizon (Layer 9) after 25 years

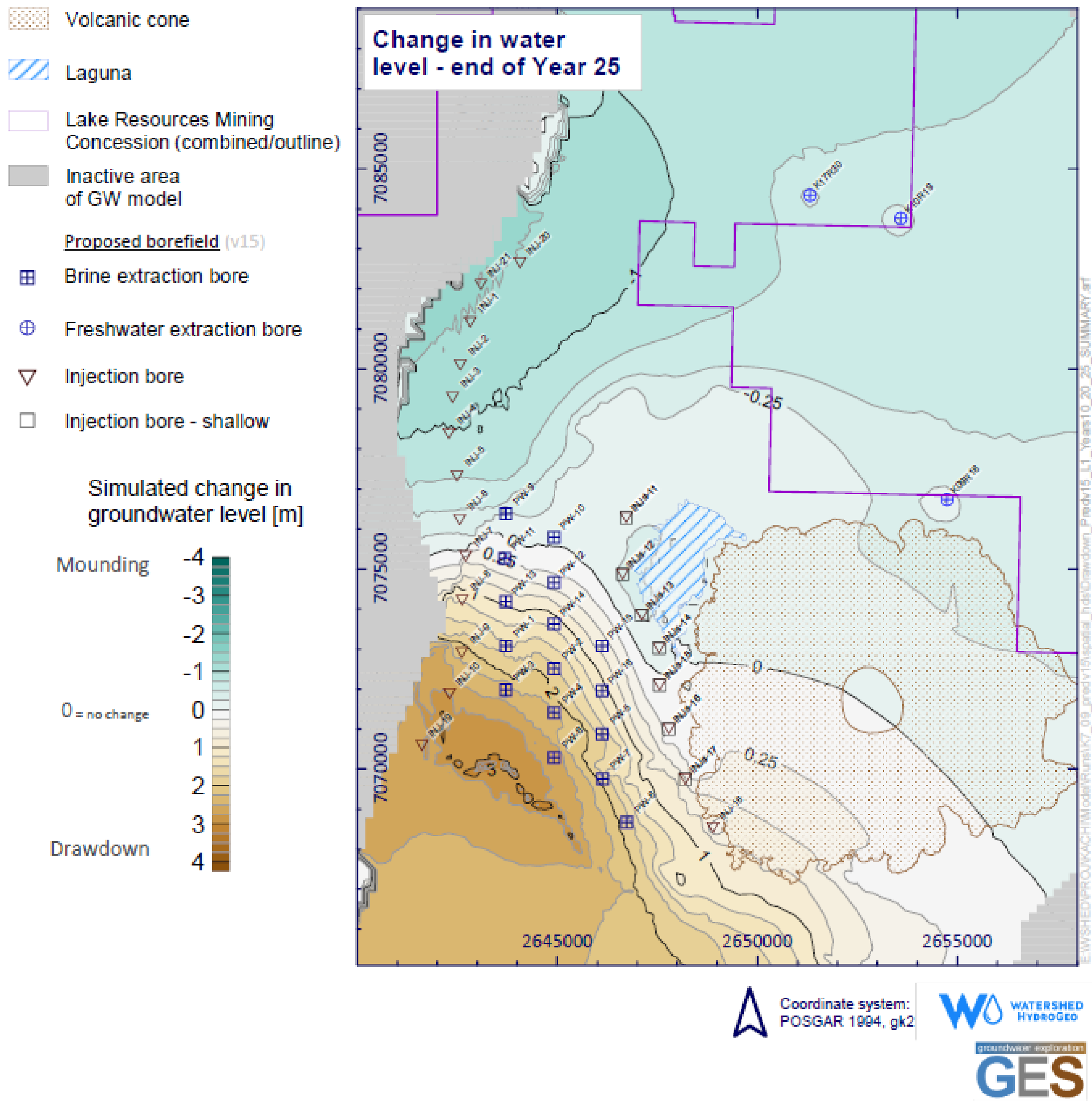


Figure 19. Simulated drawdown in the phreatic surface after 25 years

Change in fluxes

The laguna receives surface water as runoff from the basalt cone volcano, from the watercourse feature flowing from the northwest, band more consistently via diffuse groundwater flux through the base of the laguna and a series of springs around the laguna margin. (Table 10 shows Simulated change in spring flux).

The model estimates small changes to diffuse groundwater flux to the laguna on the order of a +20 to 25% increase after five years and a 10% increase at the end of 25 years. The increases are a result of the simulated shallow reinjection. When applying this change in flux to the laguna water balance model, the estimated change in lake level is approximately 0.02 m. The model was used to estimate the potential change in flux at the springs around the laguna (**Figure 20**).

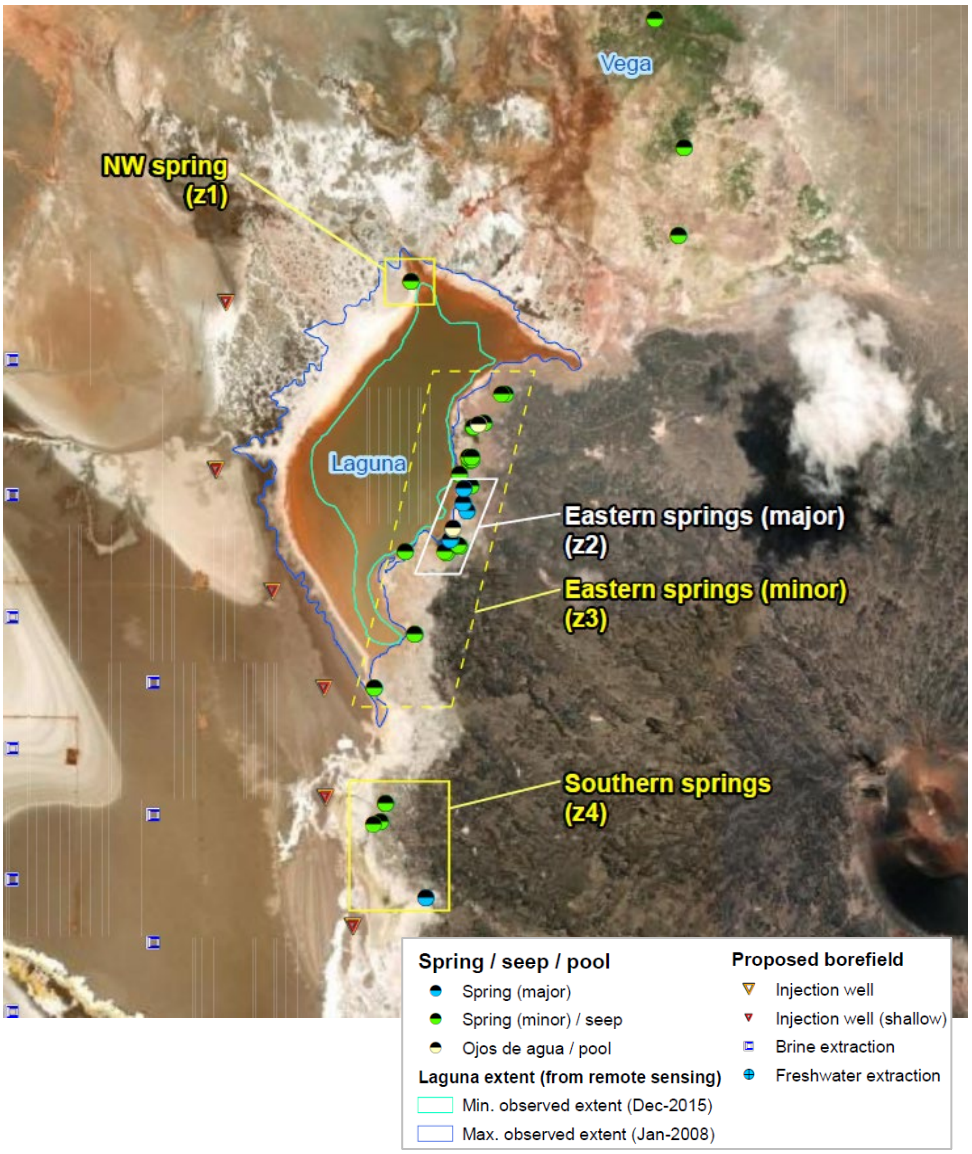


Figure 20. Hydrological features including springs near the laguna.

Table 10. Simulated change in spring flux

		At Year 5		At Year 25		At Year 50 (25 yrs post-closure)	
Spring zone	**Location from laguna**	(lps)	%	(lps)	%	(lps)	%
Zone 01	Spring to NW of laguna	0.03	+17%	0.2	+49%	<0.01	+1%
Zone 02	Springs near eastern bank	0.3	+5%	0.3	+4%	0.04	+1%
Zone 03	Springs near eastern bank	0.9	+11%	0.5	+5%	-0.03	-0%
Sum of spring fluxes (z1-z3) to laguna		1.3	+9%	1.0	+6%	0.01	<1%
Zone 04	Springs <1.5 km south – do not flow directly into the laguna	0.4	+17%	-0.4	-15%	0.01	+0%
Note: -ve values = simulated reduction in spring flow; +ve values = simulated increase in spring flow lps = liters per second. % calculated as % of average modelled flux without the Project.							

The results indicate that the effect of the shallow injection wells is most likely to cause an increase in pressures, and therefore in spring discharge. Zone 4 is the exception in the period 5-25 years, as the cone of depression extends outwards and depressurizes the overlying units to some degree. The largest proportional reduction in spring flow simulated is at Zone 4, which does not flow to the laguna. The magnitude of the predicted reduction is small (<0.4 lps), and the model likely underestimates the natural magnitude of spring flow in this area.

As a percent of simulated flow, Zone 1 is predicted to be most affected by injection-related increase in flux, while Zones 2 and 3 (on the eastern margin of the laguna) would likely only be minimally affected. Effects on lake levels, as a result of the simulated change in flux to Zones 1-3, are predicted to be up to approximately a 0.02 m increase in lake stage (in addition the +0.02 m due to diffuse flux). The magnitude of these combined changes (+0.04 m) are approximately +15% of the average annual variation in lake stage.

The advantage of injecting near the receptors is that the pressure is maintained in both the deep and shallow portions of the reservoir and injection rates can be modified to minimize changes to the natural system. Lake has developed a detailed groundwater and surface water monitoring plan and data management system that will be used in conjunction with Trigger Action Response Plans (TARPs) and contingencies to maintain the hydrogeologic system near key receptors within the ranges of environmental baseline.

Water quality

Changes in groundwater pressures and fluxes may lead to changes in water quality. The model was used to estimate changes in salinity of surface features, using TDS as a surrogate.

At the spring zones (**Figure 21**), the model predicts only minor changes to TDS, generally less than 5%. Notably, there is only a <2% change at spring Zone 2, which is the main hydrological input to the laguna. High salinity water injected deep into the system is not expected to impact shallow water quality at the vegas north of the laguna.

Despite model predictions indicating low to negligible effects, water quality and level monitoring will be necessary to ensure adverse changes do not occur, and to allow for adaptive management, should that be necessary.

Ore Reserve

Ore Reserve Estimate

The Ore Reserve was classified into Proved and Probable Reserves based on industry standards[31] or brine projects, the CP's experience, and the confidence in the quality and quantity of both data and hydrogeologic model performance. A high degree of confidence is afforded given the conservative manner in which parametrization of the geologic model in terms of hydraulic properties and geochemistry. A majority of the extracted mass is sourced from Measured Resources; nonetheless, Proved Reserves were specified by the CP for the first seven years, given the level of model calibration and yearly production goals.

The Probable Reserves were conservatively assigned for the last 18 years of the LoM, considering that the model will be continually improved and recalibrated in the future including additional extraction and injection testing, initial operations and changes in lithium concentration, among other Modifying Factors. However, there is a high-level of confidence that future Model updates and progress on other Modifying Factors will result in upgrade of the Probable Ore Reserves to Proved. Lake has discussed the potential for future Project Phases that would see a further increase in production, but these phases are not included in this Ore Reserve estimate.

The Project well field development plan consists of 16 extraction wells and 21 injection wells in the configuration shown in **Figure 17**. The extraction is focused on the core of the salar where lithium concentration has been consistently high. Injection wells are located in the coarse-grained alluvial fan sediments in the west, and along the eastern margin of the central resource area. The injection configuration provides pressure maintenance in the production horizon and near springs along the western margin of the volcano, while minimizing dilution from spent brine injection.

The simulated well field development plan and pumping rates (i.e., mine plan) results in theoretical LCE production rates that are greater than the plant throughput. **Table 11** provides potential unconstrained potential for LCE production from the current mine plan.

This excess in well field design yield is aimed at accounting for required contingencies that would include pump or well outages, routine maintenance, or potential lithium grades below model predicted values.

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[31] Houston, J., Butcher, A., Ehren, P., Evans, K., and L. Godfrey. The Evaluation of Brine Prospects and the Requirement for Modifications to Filing Standards. Economic Geology, v. 106, pp. 1225–1239 and Association of Mining and Exploration Companies, 2020. Guidelines for Resource and Reserve Estimation for Brines. https://www.jorc.org/docs/Brine_Guideline_final.pdf

Table 11 Simulated Mine Plan Theoretical - LCE Production Rates

Years	Average Li Grade	Lithium Extraction (Tonnes)	LCE Production (Tonnes)
1-7	257	43,400	230,700
8-25	245	108,200	575,600
1-25		151,600	806,300

Note: Lithium and LCE tonnes reported are based on the mine plan (i.e., pumping rates well layouts) and consider the key modifying factor of process recovery rate. As such "raw" values from the model have been reduced by 25% to account for the overall 75% lithium recovery rate.

Given the excess potential for the well field to supply feed to the plant, the constraint for LCE production is the plant design capacity (**Table 12**). Proved reserves are delineated in year one where a lower production rate is planned due to the processing ramp-up and production schedule. This would include construction and commissioning of the processing facility and would make up a large part of the time required.

Reserve estimates are based on the anticipated lithium production schedule with a cut-off grade of 150 mg/L lithium, 75% average recovery, and assuming a future lithium carbonate price of Wood Mackenzie's average annual price for battery grade lithium carbonate used in the economic model, which is $32,519/t LCE over the LoM.

Table 12 Proved and Probable Lithium Reserves

Reserve Category	Years	Lithium (Tonnes)	LCE (Tonnes)	Average Lithium (mg/L)
Proved	1	3,600	18,900	259
Proved	2-7	28,500	151,400	257
Probable	8-25	85,400	454,100	245
Total	1-25	117,400	624,400	

Notes to the Reserve Estimate:

- Lithium is converted to lithium carbonate (Li2CO3) equivalent (LCE) with a conversion factor of 5.32.
- The effective date for the Reserve Estimate is based on the November mineral resource update (November 22, 2023).
- The reserves are estimated based on the output from the processing circuit, as the 75% processing efficiency is accounted for in the Ore Reserve estimates.
- Numbers may not add due to rounding effects.
- Projected processing is based on first year rate of 18,921 tonnes LCE.
- Projected processing for years 2 – 25 rate of 25,228 tonnes LCE.
- The Certified Person for the Ore Reserve estimate is Andrew Fulton.

Particle Tracking

Model particle tracking using mod-PATH3DU[32] was conducted on the results of the predictive mode to assess the source of the extracted lithium in relation to the Mineral Resource classifications. This is summarized in **Table 13** and predicts that approximately 98% of the extracted lithium will originate from within the Measured Resource for the first five years, 94% after seven years, and then reducing to 88% in Year 25. Particle tracks at five and 25 years are shown in **Figure 22**.

[32] S.S. Papadopulos and Associates (SSPA). Inc. 2022. mod-PATH3DU: A groundwater path and travel-time simulator. October, 2022

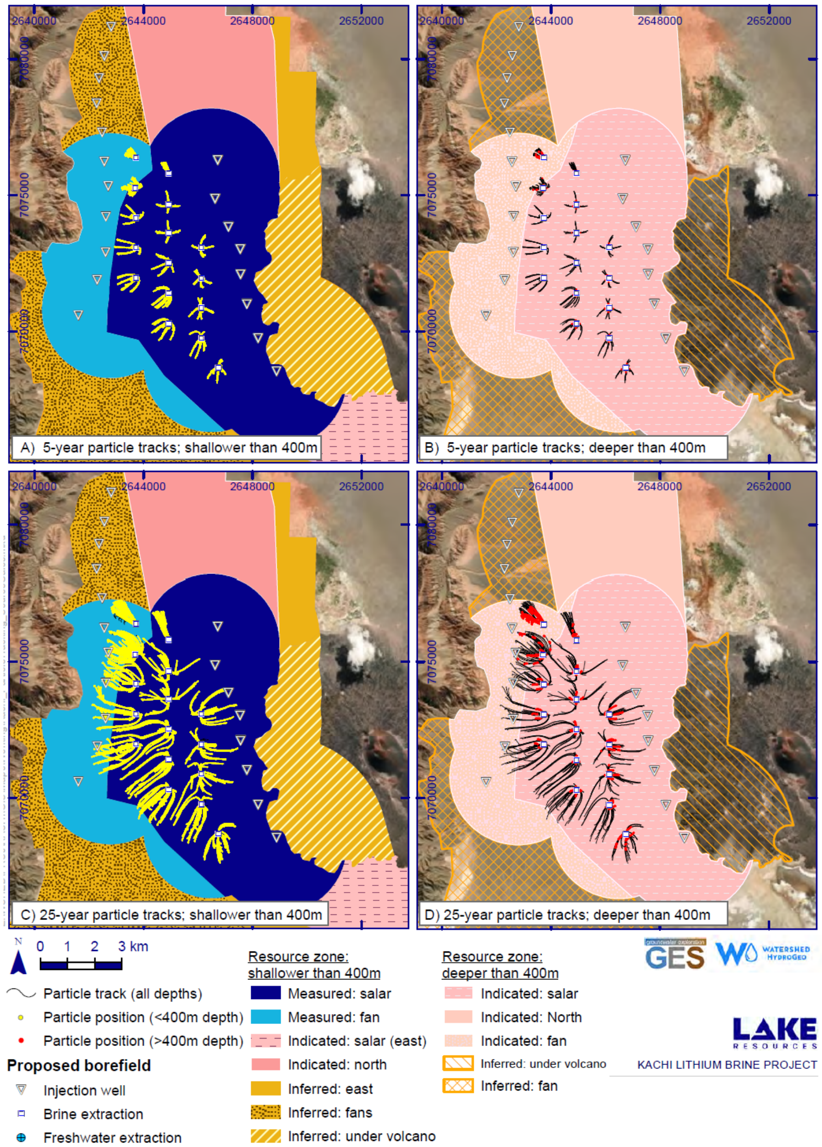

Figure 22. Particle Tracking to 5 and 25 Years overlain on Resource Zones

Table 13 Lithium source by Resource Classification

Resource Zone		% sourced from zone after 5 years	% sourced from zone after 7 years	% sourced from zone after 25 years
Shallower than 400m	Measured-salar	89%	85 %	73 %
	Measured fan	9%	9 %	15 %
Deeper than 400m	Indicated-salar	1%	3 %	9 %
	Indicated fan	1%	1.5 %	3 %

Potential for resource dilution

The Model was used to estimate dilution of the Li brine resource as a result of the injection of spent brine following the DLE process (DLE is expected to extract at least 80% of the Li) and accounting for additional losses in the production cycle are estimated to be 2.4%, leaving 22.4% of the extracted concentration in the injection stream) as well as any leakage from overlying layers or lateral inflows of less mineralized fluids.

The Model results predict that dilution of Li grades will be related to the hydraulic properties of the horizons across which injection is proposed to occur. The Model indicates that lithium grades would decline by approximately 1.5% over the first seven years, and by 10% over 25 years. In the first seven years, the effect of re-injection dilution is only a small contributor to this 1.5% reduction, while over the longer 25-year period, dilution from re-injection is simulated as being the cause of almost half of this 10% decline in recovered Li grades.

In the most-affected pumping horizons, such as that presented for model layer 9 in Unit B (**Figure 23**), dilution after 25 years could be approximately 30% at two of the proposed production wells, and approximately 10% at ten other wells, with dilution of 5% or less at the remaining four production wells. However, the overall 10% change in lithium concentration after 25 years is considered highly favourable and concentrations still exceed the design basis for the project, 205 mg/L, by more than 10%.

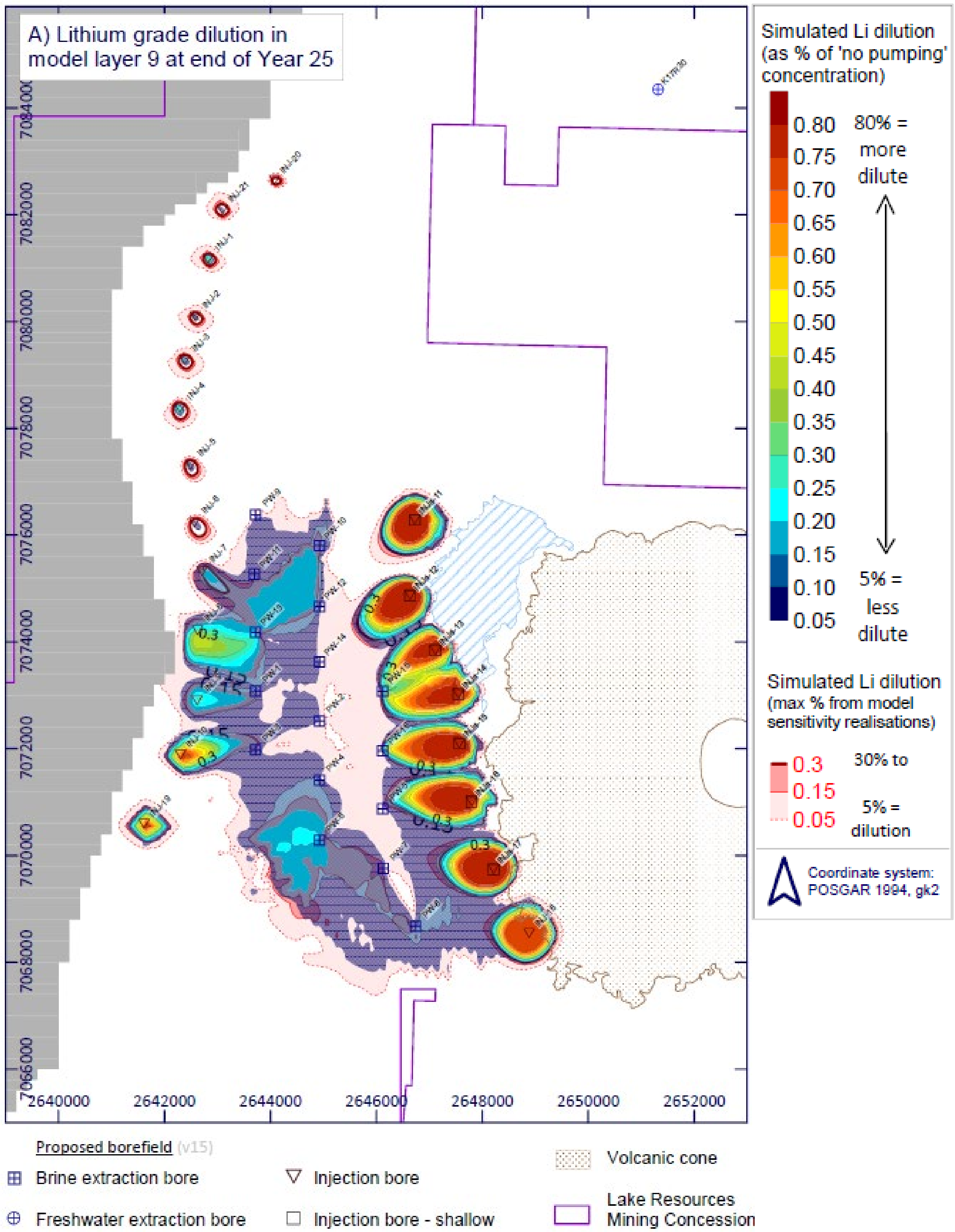

Figure 23. Simulated lithium dilution in model layer 9 (Unit B) after 25 years

Ore Reserve Summary

A numerical hydrogeologic model was developed based on the geologic, hydrogeologic and hydrogeochemical understanding, and relies on the geologic framework used in the Mineral Resource Estimate. The hydrogeologic model was calibrated by replicating historical data including brine and water levels, lake levels, hydraulic responses and lithium concentrations during pumping and injection tests. The model was used to predict future conditions during mine operations using the well field development plan.

In terms of the ore reserve estimate, the Model was used to predict changes in brine levels and brine quality for the 25-year LoM. The model shows that with the projected LCE production schedule, all of the recovered lithium is sourced from within the Measured and Indicated Resource where drillhole density provides a high degree of confidence in the resource estimate. The excess capacity is considered a factor-of-safety to account for changes in mine plans related to ramp-up or ramp-down, potential heterogeneity in the system that could impact well production rates, rates of dilution from injection, and plant downtime.

Particle tracking shows the outcome of optimisation modelling used in the well field design showing predicted recovery of lithium predominantly remains within the measured resource footprint and is completely sourced from the combined measured and indicated resources.

Injection wells in the alluvial fans west of the salar increase hydraulic gradients of the lithium brine towards the extraction wells and maintain pressure in the production horizons minimizing potential impacts from drawdown (i.e., subsidence, drawdown in overlying layers). Injection wells along the eastern margin of the salar provide an opportunity for an adaptive management strategy to regulate and adjust injection rates that maintains spring discharge as close as possible to natural conditions.

Production in years one to seven is predicted to be 94% from Measured Resources with the remainder from Indicated Resources. Production in years eight to 25 is predicted to be 85% from Measured Resource with 9% from Indicated Resources. Proved Ore Reserves are capped at seven years despite the very high production from Measured Resource. The rationale is that model uncertainty increases with time of simulation and that probable reserves are expected to be moved to proven as large scale operational hydraulic stresses and lithium grades are incorporated into future versions of the model.

Cut-Off Grades

Grade-tonnage curves for the Project indicate that a cut-off grade of 150 mg/L would result in less than a 0.1% reduction in total lithium resource. As a result, Mineral Resources are estimated utilizing a conservative cut-off grade of 150 mg/L lithium.

The proposed DLE technology has been demonstrated to operate cost-effectively at much lower lithium concentrations (e.g., less than 75 mg/L). Effectively no Mineral Resources have been quantified below 150 mg/L, however, the opportunity exists for incorporation of lower grade resources should they be discovered or otherwise evolve at the planned extraction wells. In this instance, the cut-off grade could be revised lower based on operating costs for the lithium grade considered.

Project Economics

A detailed economic model was prepared with the assistance of KPMG for use by Lake for the DFS. The model collates the study results to estimate and evaluate the Kachi Project cash flows and economic viability.

The inputs to the economic model are extensive. The Kachi brine production forecast is from mine plan presented in **Figure 16** and **Figure 17** Mineral Resource and Ore Reserve Estimates of this document. The estimated capital and operating costs are derived from a combination of sources and summarized in DFS[33]. Hatch led the estimations for the Carbonation plant, reagent generation and general infrastructure. Lake provided the well field costs. Lilac provided the costs and process data associated with the Ion Exchange (IX) technology. Argentinian electrical utility Consultants estimated the power “unit-rate” ($/MW-hr) including rolling infrastructure additions into a PPA (Power Purchase Agreement). The project costs will be released to a Class III AACE estimate (+/-15%).

The economics of the Kachi Project were evaluated using a real (non-escalated), after-tax discounted cashflow (DCF) model on a 100% project equity basis (unlevered). Included in the financial model are the production costs, revenues, operating costs, capital costs and estimated taxes.

This financial analysis covers the period from the beginning of construction from April 2025 to end of mine life, and all future cashflows are reported in real US dollars with no allowance for inflation-based escalation.

The cash flow analysis was used to estimate the economics of processing Kachi brine to produce and average of 25 ktpa of battery grade lithium carbonate for total production volume of 624,400 tonnes over the lifetime of the project. Opex costs for the plant will be approximately $6k / tonne of LCE[34] which produces significant margin to the anticipated selling price of the battery grade product that is expected to be produced.

Allowances for the following has been included:

- An Argentine Export tax of 4.5% on gross revenue
- A Catamarca Province Royalty of 3.5%of Boca Mina value (e.g., mine head value) of extracted mineral for Catamarca province under the Mining Investment Law. As final royalty rates for the project are yet to be agreed with the Government of Catamarca, the mine head value has been provisionally set to represent lithium chloride revenues at a provisional price of $5,000/tonne.

The Kachi project forecast includes production of Battery Grade Lithium Carbonate for the duration of the life of mine across the design range of brine chemistries.

The Kachi project economic forecast utilizes a forward price projection provided in a DFS bespoke study commissioned by the project with Wood Mackenzie and delivered in December 2023. Demand for Lithium Carbonate is primarily driven by the transition to Electric Vehicles. Prices for lithium carbonate considered in the economic evaluation correspond to CIF Asia contract prices in real 2023 terms. The average sales price analysed is $33,000 / tonne LCE over the LoM. Additionally, the project has assessed and presented a number of sensitivity cases in the DFS, including ranges of forward price projections, which also result in a positive Net Present Value.

Based on the material presented in this update, and the DFS to be concurrently released, materials have been prepared at a feasibility level, as well as previous JORC reports for the Project[34] [35], the multi-disciplinary team of geologists, hydrogeologists, chemical and civil engineers with relevant experience in

[33] See LKE ASX Announcement dated 19 December 2023. Lake Resources Kachi Project Phase One Definitive Feasibility Study

[34] See LKE ASX Announcement dated 22 November 2023

[35] See LKE ASX Announcement dated 16 August 2023

brine processing and direct lithium extraction technologies, are in collective agreement that the project meets the reasonable prospective criteria for economic extraction of lithium from the brine.

Mining and Metallurgical Methods and Parameters

The current mine plan includes the construction of a Phase 1 plant with a targeted capacity of 25,000 tpa of battery grade lithium carbonate. Therefore, this reserve statement targets a production rate, based on the factors set out in this reserve statement, at the maximum capacity, being 25,000 tpa of battery grade lithium carbonate from the lithium chloride brine resource. The brine will be extracted from the saturated sediments using vertical wells initially focused on the central resource area. Wells will be at least 400 m deep with screens approximately 200 m in length. Brine will be pumped to the DLE plant, as discussed in the following paragraph. The spent brine, which has about 25% of the original lithium content and 90% of the total dissolved solids remaining, will be injected back into the subsurface via injection wells with potential augmentation using rapid-infiltration basins.

The brine feed is extracted and pumped from the brine extraction wells to the brine feed pond which provides surge volume between extraction wells and the processing plant. The brine is pH-adjusted to precipitate iron and then fed to a filtration system to remove suspended solids. The DLE step employs a novel ion-exchange media using hydrochloric acid as a stripper. The eluate stream is then concentrated by High Pressure Reverse Osmosis (HPRO). The concentrated eluate is treated for impurities by the stage-wise addition of lime and sodium carbonate, with the solid precipitates separated by filtration. Impurity removal is followed by evaporation using Mechanical Vapour Recompression (MVR) technology, making it suitable for further processing into lithium carbonate and recovery water (as reverse osmosis permeate and evaporator condensate) for recycling. Further trace impurities are removed by ion exchange to target battery-grade product specifications. Lithium carbonate is precipitated from the purified stream by addition of sodium carbonate, the primary reagent input for the process.

The precipitated lithium carbonate is washed through two stages of centrifuging and a stage of repulp washing to achieve the final product purity required. This product is dried and packaged for sale. A recirculation stream from lithium carbonate precipitation, which contains a considerable residual amount of soluble lithium chloride, is fed to a crystallization system for additional lithium recovery, condensate water recovery, and the production of a concentrated sodium chloride brine feed for the chlor-alkali plant. An on-site chlor-alkali plant electrochemically converts sodium chloride from the concentrated brine into hydrochloric acid and sodium hydroxide reagents to meet the demands of the process.

Environment, Social and Governance (ESG)

Salt lakes (salars) are a form of wetland which are inhospitable to all except adapted flora and fauna. Argentina is signatory to the Ramsar Convention under the auspices of UNESCO under the Convention on Wetlands (Ramsar, 1971). Ramsar site 1865 “Lagunas Altoandinas y Puneñas de Catamarca”) was established in February 2009 under an agreement between the Ramsar Convention Organization and the government of Argentina, represented by the Environmental Secretariat of the Catamarca Province. The provincial government in 2021 approved lithium extraction and mine development at the nearby Tres Quebradas lithium brine Project, located in a similar wetland zone to the Lake Kachi Project.

The Kachi Project environmental area is concluding a socio-environmental baseline study with two years of sampling that included all biophysical components in the environmental area of influence in the Carachi Pampa basin. A specific study was carried out to predict the effects of climate change for the period up to 2050. A baseline of data of biodiversity and ecosystem services was compiled covering the desert and salt flat with emphasis on the laguna and vegas next to the Carachi Pampa Volcano. Special emphasis has been placed on migratory wetland birds that inhabit this area.

There are national and provincial protected areas some distance from the production project, which may be affected by external infrastructure and logistics activities. Environmental and social management plans and procedures have been developed for minimizing risks in all sensitive areas. Cultural, paleontological, and landscape assessments were completed in line with the requirements of the Equator Principles.

A social baseline has been constructed from surveys of land use, communities, and public perceptions in the nearby town of El Peñon and the Carachi Pampa Community, supported by two field surveys with numerous interviews and three community consultation meetings.

The environmental management system will address fresh water and brine management, energy efficiency, alternative energies, and reduction of the environmental footprint associated with the innovative process of DLE. The process will not produce effluent discharges and will have measured airborne emissions of gases and particulate matter within national standards. Hazardous materials and solid wastes will be managed according to good international industry practices (GIIP in the IFC terminology).

A permitting plan has been developed, with emphasis initially on the Environmental Impact Assessment (EIA) which is subject to public comment and evaluated by the provincial mining authority leading to an Environmental Impact Declaration (EID) resolution. Approval of this permit will enable the evaluation of the sectoral permits required for the construction and operation of the enterprise.

The ongoing management of the Kachi Project will address government relations, community relations, and internal controls for compliance with obligations and commitments for the social, environmental, and normative matters. It will also address community sustainability initiatives to promote long-term benefits of the Kachi project.

Competent Person's Statement – Kachi Lithium Brine Project

The information contained in this announcement relating to Exploration Results, Mineral Resources and Ore Reserve is based on, and fairly represents, information and supporting documentation that 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 Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves.

Mr. 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 as prepared by Mr. Fulton.

Table 14 Property Details

Title											Status	
Tenement	Number–- GDE	Title Owner	Title Acquisition	Registration	Tenure Type	STATUS	MINING CONCESSION	Minerals	AREA (Hectares)	Claims	EIA pending Approval	Royalty
MARIA I	EX–- 2021–- 00362285–- CAT (140/2018)	MVM / Lake	11/15/2018	Registered	Exploration Concession	Granted	N/A	Lithium Salts	1260.0736	12	Not yet submitted	No
MARIA II	EX - 2021–- 00373528–- CAT (14/2016)	MVM / Lake	8/24/2017	Registered	Exploration Concession	Granted	N/A	Lithium Salts	546.9333	5	Not yet submitted	No
MARIA III	EX–- 2021–- 00293511 – CAT (15/2016)	MVM / Lake	8/24/2017	Registered	Exploration Concession	Granted	N/A	Lithium Salts	834.7969	9	Not yet submitted	No
KACHI INCA	EX–- 2021–- 00361579–- CAT (13/2016)	MVM / Lake	8/24/2017	Registered	Exploration Concession	Granted	N/A	Lithium Salts	857.7131	9	Not yet submitted	No
KACHI INCA I	EX–- 2021–- 00432837 – CAT (16/2016)	MVM / Lake	8/24/2017	Registered	Exploration Concession	Granted	N/A	Lithium Salts	2880.4365	29	Not yet submitted	No
KACHI INCA II	EX–- 2021–- 00221521 – CAT (17/2016)	MVM / Lake	8/24/2017	Registered	Exploration Concession	Granted	N/A	Lithium Salts	2822.7403	29	Not yet submitted	No
KACHI INCA III	EX–- 2121–- 00321200 – CAT (47/2016)	MVM / Lake	8/24/2016	Registered	Exploration Concession	Granted	N/A	Lithium Salts	3355.3649	34	Not yet submitted	No
KACHI INCA V	EX–- 2021–- 00208240 – CAT (45/2016)	MVM / Lake	10/10/2017	Registered	Exploration Concession	Granted	N/A	Lithium Salts	305.1754	4	Not yet submitted	No
KACHI INCA VI	EX–- 2021–- 00294250 – CAT (44/2016)	MVM / Lake	8/24/2016	Registered	Exploration Concession	Granted	N/A	Lithium Salts	109.787	2	Not yet submitted	No
DANIEL ARMANDO	EX–- 2021–- 00208733–- CAT (23/2016)	MVM / Lake	8/24/2017	Registered	Exploration Concession	Granted	N/A	Lithium Salts	3121.876	32	Not yet submitted	No
DANIEL ARMANDO II	EX–- 2021–- 00331263 – CAT (97/2016)	MVM / Lake	10/7/2016	Registered	Exploration Concession	Granted	N/A	Lithium Salts	1589.664	16	Not yet submitted	No
MORENA 1	EX–- 2021–- 00328638 – CAT (72/2016)	MVM / Lake	10/7/2016	Registered	Exploration Concession	Granted	N/A	Lithium Salts	3024.4662	31	Not yet submitted	No
MORENA 2	EX–- 2021–- 00390312 – CAT (73/2016)	MVM / Lake	10/7/2016	Registered	Exploration Concession	Granted	N/A	Lithium Salts	2989.429	30	Not yet submitted	No
MORENA 3	EX–- 2021–- 00361695 – CAT (74/2016)	MVM / Lake	10/7/2016	Registered	Exploration Concession	Granted	N/A	Lithium Salts	3007.1366	31	Not yet submitted	No
MORENA 4	EX–- 2021–- 00293790 – CAT (29/2019)	MVM / Lake	9/18/2019	Registered	Exploration Concession	Granted	N/A	Lithium Salts	2967.6745	30	Not yet submitted	No
MORENA 5	EX–- 2021–- 00221381 – CAT (97/2017)	MVM / Lake	11/29/2019	Registered	Exploration Concession	Granted	N/A	Lithium Salts	1415.8752	15	Not yet submitted	No
MORENA 6	EX–- 2021–- 00208283 – CAT (75/2016)	MVM / Lake	10/7/2016	Registered	Exploration Concession	Granted	N/A	Lithium Salts	1606.1445	17	Not yet submitted	No
MORENA 7	EX–- 2021–- 00259078 – CAT (76/2016)	MVM / Lake	10/7/2016	Registered	Exploration Concession	Granted	N/A	Lithium Salts	2804.9561	29	Not yet submitted	No
MORENA 8	EX–- 2021–- 00294310–- CAT (77/2016)	MVM / Lake	10/7/2016	Registered	Exploration Concession	Granted	N/A	Lithium Salts	2961.0131	30	Not yet submitted	No
MORENA 9	EX–- 2021–- 00368898 – CAT (30/2019)	MVM / Lake	11/29/2019	Registered	Exploration Concession	Granted	N/A	Lithium Salts	2821.5762	29	Not yet submitted	No
MORENA 10	EX–- 2022–- 00508476–- CAT	MVM / Lake	EN TRAMITE	Registered	Exploration Concession	Not Granted	N/A	Lithium Salts	2712.9283	28	Not yet submitted	No
MORENA 12	EX–- 2021–- 00259022 – CAT (78/2016)	MVM / Lake	10/7/2016	Registered	Exploration Concession	Granted	N/A	Lithium Salts	2703.6817	28	Not yet submitted	No
MORENA 13	EX–- 2021–- 00258895 – CAT (79/2016)	MVM / Lake	10/7/2016	Registered	Exploration Concession	Granted	N/A	Lithium Salts	3024.4662	31	Not yet submitted	No

Title										Status		
Tenement	Number–- GDE	Title Owner	Title Acquisition	Registration	Tenure Type	STATUS	MINING CONCESSION	Minerals	AREA (Hectares)	Claims	EIA pending Approval	Royalty
MORENA 15	EX–- 2021–- 00360876 – CAT (162/2017)	MVM / Lake	8/30/2018	Registered	Exploration Concession	Granted	N/A	Lithium Salts	2559.0852	26	Not yet submitted	No
PAMPA I	EX–- 2021–- 00233741 – CAT (129/2013)	MVM / Lake	11/24/2016	Registered	Exploration Concession	Granted	N/A	Lithium Salts	690	7	Not yet submitted	No
PAMPA II	EX–- 2021–- 00430058 -CAT (128/2013)	MVM / Lake	2/8/2016	Registered	Exploration Concession	Granted	N/A	Lithium Salts	1053.15	11	Not yet submitted	No
PAMPA 11	EX–- 2021–- 00372498 – CAT (201/2018)	MVM / Lake	2/7/2020	Registered	Exploration Concession	Granted	N/A	Lithium Salts	815	9	Not yet submitted	No
PAMPA IV	EX–- 2021–- 00322433 – CAT (78/2017)	MVM / Lake	3/22/2018	Registered	Exploration Concession	Granted	N/A	Lithium Salts	2569.3125	26	Not yet submitted	No
IRENE	EX–- 2021–- 00212993 – CAT (28/2018)	MVM / Lake	9/6/2018	Registered	Exploration Concession	Granted	N/A	Lithium Salts	2052.2562	21	Not yet submitted	No
PARAPETO 1	EX–- 2021–- 01648141 – CAT (133/2018)	MVM / Lake	9/24/2018	Registered	Exploration Concession	Granted	N/A	Lithium Salts	2280.5717	23	Not yet submitted	No
PARAPETO 2	EX–- 2021–- 00235750 – CAT (134/2018)	MVM / Lake	9/24/2018	Registered	Exploration Concession	Granted	N/A	Lithium Salts	1729.716	18	Not yet submitted	No
PARAPETO 3	EX–- 2121–- 00261195 – CAT (132/2018)	MVM / Lake	11/28/2018	Registered	Exploration Concession	Granted	N/A	Lithium Salts	1891.5621	19	Not yet submitted	No
PARAPETO III	EX–- 2021–- 00854749 – CAT	MVM / Lake	23/08/2022	Registered	Exploration Concession	Granted	N/A	Lithium Salts	1949.1255	20	Not yet submitted	No
PARAPETO 4	EX–- 2021–- 01651926 – CAT	MVM / Lake	23/08/2022	Registered	Exploration Concession	Granted	N/A	Lithium Salts	1948.9079	20	Not yet submitted	No
GOLD SAND I	EX–- 2021–- 00376209 – CAT (238/2018)	MVM / Lake	4/24/2019	Registered	Exploration Concession	Granted	N/A	Lithium Salts	853.602	9	Not yet submitted	No
TORNADO VII	EX–- 2021–- 00208328 – CAT (48/2016)	MVM / Lake	11/24/2016	Registered	Exploration Concession	Granted	N/A	Lithium Salts	6628.842	67	Not yet submitted	No
DEBBIE I	EX–- 2021–- 00196977 – CAT (21/2016)	MVM / Lake	8/24/2017	Registered	Exploration Concession	Granted	N/A	Lithium Salts	1742.85	18	Not yet submitted	No
DOÑA CARMEN	EX–- 2021–- 00321876 – CAT (24/2016)	MVM / Lake	8/24/2017	Registered	Exploration Concession	Granted	N/A	Lithium Salts	873.1146	9	Not yet submitted	No
DIVINA VICTORIA I	EX–- 2021–- 00368383 – CAT (25/2016)	MVM / Lake	8/24/2017	Registered	Exploration Concession	Granted	N/A	Lithium Salts	2420.1	25	Not yet submitted	No
DOÑA AMPARO I	EX–- 2021–- 00294138 – CAT (22/2016)	MVM / Lake	8/24/2017	Registered	Exploration Concession	Granted	N/A	Lithium Salts	2695.2986	27	Not yet submitted	No
ESCONDIDITA	EX–- 2021–- 00143141 – CAT (131/2018)	MVM / Lake	9/24/2018	Registered	Exploration Concession	Granted	N/A	Lithium Salts	373.4346	4	Not yet submitted	No
GALAN OESTE	EX–- 2021–- 00153718 – CAT (43/2016)	MVM / Lake	10/14/2016	Registered	Exploration Concession	Granted	N/A	Lithium Salts	3166.9356	32	Not yet submitted	No
MARIA LUZ	EX–- 2021–- 00153678 – CAT (34/2017)	MVM / Lake	3/27/2018	Registered	Exploration Concession	Granted	N/A	Lithium Salts	2424.9638	25	Not yet submitted	No
NINA	EX–- 2021–- 00360751 – CAT (106/2020)	MVM / Lake	10/26/2021	Registered	Exploration Concession	Granted	N/A	Lithium Salts	3125.0644	32	Not yet submitted	No
PADRE JOSE MARIA I	EX–- 2021–- 00432843 – CAT (95/2012)	MVM / Lake	1/29/2021	Registered	Exploration Concession	Granted	N/A	Lithium Salts	650.0094	7	Not yet submitted	No
PADRE JOSE MARIA II	EX–- 2021–- 00432950 -CAT (96/2012)	MVM / Lake	1/29/2021	Registered	Exploration Concession	Granted	N/A	Lithium Salts	1523.1476	16	Not yet submitted	No
PADRE JOSE MARIA III	EX–- 2021–- 00433095 – CAT (94/2012)	MVM / Lake	1/29/2021	Registered	Exploration Concession	Granted	N/A	Lithium Salts	1523.1476	16	Not yet submitted	No

Title										Status		
Tenement	Number–- GDE	Title Owner	Title Acquisition	Registration	Tenure Type	STATUS	MINING CONCESSION	Minerals	AREA (Hectares)	Claims	EIA pending Approval	Royalty
PADRE JOSE MARIA IV	EX–- 2021–- 00433149 – CAT (93/2012)	MVM / Lake	1/29/2021	Registered	Exploration Concession	Granted	N/A	Lithium Salts	1528.6905	16	Not yet submitted	No
PADRE JOSE MARIA V	EX–- 2021–- 00647090 – CAT (92/2012)	MVM / Lake	1/29/2021	Registered	Exploration Concession	Granted	N/A	Lithium Salts	1584.3384	16	Not yet submitted	No
PADRE JOSE MARIA VI	EX–- 2021–- 00647273 – CAT (91/2012)	MVM / Lake	1/29/2021	Registered	Exploration Concession	Granted	N/A	Lithium Salts	1507.3002	16	Not yet submitted	No
PADRE JOSE MARIA VII	EX–- 2021–- 00647377 – CAT (90/2012)	MVM / Lake	1/29/2021	Registered	Exploration Concession	Granted	N/A	Lithium Salts	1499.7985	15	Not yet submitted	No
PADRE JOSE MARIA VIII	EX–- 2021–- 00647631 – CAT (89/2012)	MVM / Lake	1/29/2021	Registered	Exploration Concession	Granted	N/A	Lithium Salts	515.0332	6	Not yet submitted	No
PAMPA III	EX - 2021 - 00429001 – CAT (130/12)	MVM Lake	29/06/2015	Registred	Exploration Concession	Granted	N/A	Lithium Salts	600.00	6	Not yet Submitted	No

Table 15 Table of Resource Drill Hole Collars

Hole id	Easting	Northing	Drilling Method	From	To	Resource Unit	Li (mg/L)	Mg (mg/L)	K (mg/L)	Sample Type
K02D13	2646493	7075690	Diamond HQ	58.5	59.5	A	217	3557.5	4437.7	Drive point
				64	108	A	181.7	2884.5	3620.3	Simple packer
				138	190.5	A	144.4	1589.9	3077.9	Simple packer
				269	298.4	B	203.5	2163.1	4099.7	Simple packer
				301	31 9	C	200.4	2172.6	4182.7	Simple packer
				313	343	C	251.7	1411.2	4987.2	Simple packer
				346	388	C	206.2	1814.6	4380.9	Simple packer
K02P01	2646499	7075676	Rotary	7	10	A	93.7	1378.3	1778.3	Airlift
K02P02	2646565	7075674	Rotary	31	35	A	175.7	2525.1	3762.2	Airlift
K03R03	2644936	7073943	Rotary	213.08	236.08	B	287.5	1243.4	5880.5	Airlift
K03R12	2644942	7073926	Rotary	349.16	391.44	C	275.7	1140	5403.6	Pumping test
K04P01	2646565	7071419	Rotary	13	16	A	200.7	3854.5	4320.7	Airlift
				16	28	A	198.6	4169.7	4144.7	Airlift
				30	35	A	183.9	3127	4212	Airlift
				31	34	A	184.9	3154.2	4329.1	Airlift
K04R15	2646513	7071387	Rotary	295	343	C	242.2	1240.7	5336.8	Pumping test
K05D09	2648943	7068270	Diamond HQ	61	62	A	76.6	1202.6	1257.1	Drive point
				107.5	108.5	A	213.1	1301.1	4163.5	Drive point
				156	157.5	A	95.2	1460	1926	Artesian
				188	190	B	215.3	919	3596	Double packer
				200	201	B	204	919.7	3669.5	Double packer
				242	243	C	176	889.6	3115.8	Double packer
K05D11	2648950	7068270	Diamond HQ	288	289	C	142.9	1088	2251	Artesian
				299	300.5	C	116.3	1035	1782	Artesian
				291	334.5	C	286.4	1164	4084	Simple packer
K06D04	2655328	7066144	Rotary	95	113	A	187	879.1	3294.2	Airlift

K06D08	2655338	7066149	Diamond HQ	69	70	A	187.6	999.4	3241	Drive point
K06D08 **K06R10**	2655338 2655398	7066149 7066156	Diamond HQ Rotary	120	121	A	181.9	933.4	3301	Drive point
				165	166	A	170	880	3650	Drive point
				205	206	B	164	891	3575	Drive point
				258	259	C	189	962	4120	Drive point
				354	405	R	161.5	911	3415	Simple packer
				150	173.5	B	191.9	1119	3420.8	Artesian
K08R14	2644275	7071546	Rotary	300	360	C	326.5	1231.9	6038.5	Airlift
K08P01	2644254	7071571	Rotary	40	43	A	181.4	2385.4	3836.9	Airlift
K08P01 **K08P02**	2644254 2644261	7071571 7071562	Rotary Rotary	41.5	47.5	A	175.6	2193.9	3514	Airlift
				7	10	A	185.1	4352.6	3545.4	Airlift
K08R17	2644263	7071556	Rotary	141.33	195.33	A	224.2	3818.9	4738.2	Pumping test
K11D20	2646488	7073873	Diamond HQ	83	130	A	187.8	2651.2	4039.8	Simple packer
K11D20 **K11R29**	2646488 2646548	7073873 7073949	Diamond HQ Rotary	117	165	A	215.9	1838.2	4840.5	Simple packer
				214	215	B	211.8	1571	4693.6	Double packer
				248	325	B	190.1	2677.4	4394.9	Simple packer
				356	357	C	218.4	1148.7	4486.3	Double packer
				364	380	C	222.3	831.7	4525.7	Airlift
				377	400	C	197.9	1004.7	4244.4	Simple packer
				10	13	A	181.5	2896.9	4242.6	Airlift
				25	28	A	174.8	2434.7	3790.7	Airlift
				200	255	B	287.25	1653.5	5426.25	Pumping test
K11P01	2646522	7073067	Rotary	31	34	A	183.6	2736.5	4202.5	Airlift
K12P01	2646522	7072770	Rotary	13	16	A	150.8	2520.1	3781.6	Airlift
K12P01 **K12D21**	2646522 2646520	7072770 7072801	Rotary Diamond HQ	25	28	A	178.4	2918.1	4338.2	Airlift
				26.15	29.1	A	173.65	2636	3896	Airlift
				55	73	A	176.6	2641.9	3863.1	Bailer

K12D21	2646520	7072801	Diamond HQ	73	84	A	168.2	2584.8	3741.7	Bailer
				94	109	A	219.2	1508.6	4254.9	Bailer
				109	124	A	172.4	2329.9	3912.6	Bailer
				124	139	A	224.5	1418.1	4721.8	Bailer
				144	154	A	223.2	1486.2	4579.6	Bailer
				156	169	A	232.2	1347.4	4827	Bailer
				171	184	A	233.5	1353	4992	Bailer
				195	199	B	223.6	1383.6	4521.1	Bailer
				202	211	C	221.2	1408.5	4036.4	Airlift
K14D23	2644072	7072780	Diamond HQ	7	16	A	167.6	3135.4	3373.7	Bailer
				15	28	A	177.2	2747.7	3739.8	Airlift
				31	40	A	153.9	2687.3	3578.5	Bailer
				43	46	A	152.1	2683.2	3462.5	Bailer
				46	55	A	139.8	2630.5	3333.7	Airlift
				66	75	A	145.4	2004.6	4525.9	Bailer
K14D23	2644072	7072780	Diamond HQ	75	86.5	A	227.5	1923.7	4796.9	Bailer
				87	100	A	247.7	2230	4731.1	Bailer
K14D24	2644050	7072783	Diamond HQ	100	115	A	266.5	2191.2	4737.7	Bailer
				115	130	A	249.6	2722.3	4884.8	Bailer
				130	145	A	217.8	2087.3	4110.3	Bailer
				159	175	A	217.7	1196.7	4448.9	Bailer
				250	295	B	294.1	1695.1	5472.9	Airlift
				70.3	71.3	A	231.4	2273.8	4624.7	Double packer

				88.3	89.3	A	208	2773.6	3796.7	Double packer
				124.3	125.3	A	249.3	2507.4	4284.5	Double packer
				145.3	146.3	A	195.4	2212.8	3917.4	Double packer
				181	182	A	254.4	1414.1	4711.7	Double packer
K14D24	2644050	7072783	Diamond HQ	221	222	B	277.5	1302.1	5254.5	Double packer
K14R37	2644113	7072780	Rotary	273	274	B	312.5	1365.9	6192.3	Double packer
				330	331	C	281.1	988.2	4995.6	Double packer
				364	365	C	280.4	864.9	4861.8	Double packer
				396.3	397.3	C	201	1839.1	4241.8	Double packer
				350	373.5	C	300.8	955.75	4965.7	Pumping test
K14R37	2644113	7072780	Rotary	350	373.5	C	325	1022.5	5446	Airlift
K15D25	2645438	7072482	Diamond HQ	175	176	A	230.5	2115.5	5500.2	Double packer
				199	200	B	241.6	1563.8	5777.2	Double packer
				267	268	B	283.5	2047.6	5313.2	Double packer
				280	281	B	322.8	1421.1	5459.7	Double packer
K15D25	2645438	7072482	Diamond HQ	301	302	C	323.1	1230	5480	Double packer
K14P01	2644059	7072767	Rotary	358	359.5	C	287.4	946.2	4981.8	Double packer
				374.5	405	C	230.4	1047.7	4591.3	Simple packer
				31.9	35.86	A	200.6	2764.2	3806.4	Airlift
K15P01	2645434	7072497	Rotary	30.9	33.9	A	164.4	2268.5	3744.2	Airlift
K15R36	2645456	7072403	Rotary	350	400.5	C	306.8	677.1	5075.6	Pumping test
K16D28	2645457	7070992	Diamond HQ	56.3	57.3	A	231.9	2562	4425	Double packer

K16D28 **K18D32**	2645457 2642714	7070992 7071991	Diamond HQ Diamond HQ	82.3	83.3	A	211.8	2564.5	4404	Double packer
				121.3	122.3	A	207.1	2337	4353	Double packer
				166.3	167.3	A	207.7	2545.5	4426	Double packer
				208.3	209.3	B	223.25	2488	4543	Double packer
				221.3	222.3	B	300.08	1469	6085	Double packer
				265.3	266.3	B	204.2701	2459.5	4376	Double packer
				322.3	323.3	C	295.5663	1166	5361	Double packer
				377.3	378.3	C	260.2421	855	4720	Double packer
				387.3	388	C	265.6143	886.5	4821	Double packer
				73	74	A	221	3506	4150	Double packer
K18D32 **K18P01**	2642714 2642767	7071991 7072787	Diamond HQ Diamond HQ	124	125	A	218	3456	4239	Double packer
				167.5	169.5	A	219	3424	4163	Double packer
				193	195	A	215.5	3360	4220.5	Double packer
				298	300	B	231	1749.5	4364	Double packer
				323	325	C	254	1514	4613.5	Double packer
				362	364	C	333	950	5542	Double packer
				397	399	C	241	1464.5	4460	Double packer
				382	383	C	251.5	1535.5	4314.5	Double packer
				31	37	A	203	3163	3984.7	Airlift
K19R33	2642787	7070796	Diamond HQ	58	59	A	216	3922	4154	Double packer
K19R33	2642787	7070796	Diamond HQ	112	114	A	197	3266	3866	Double packer
				202	203	A	162	2461	3186	Double packer
				323	324	C	171.5	20.4	3081.5	Double packer
				373	374	C	218	1286	4251	Double packer
K20R35	2642787	7074735	Diamond HQ	43	45	A	133	2251	2368	Double packer

				67	69	A	137	2260	2377	Double packer
				86	88	A	161	2836	2800	Double packer
				124	126	A	171	2926	3406	Double packer
				178	180	A	187	2607.5	4278.5	Double packer
K20R35	2642787	7074735	Diamond HQ	277	279	C	204	2198	3808.5	Double packer
K21D38	2641814	7067547	Diamond HQ	361	363	C	266.5	708	4893	Double packer
				393	411	C	273	781	4814	Double packer
				205	217	B	196.5	2253	3596	Airlift
				175	177	A	155	1490	3102	Double packer
				202	204	A	155.5	1629	3006	Double packer
K21D38	2641814	7067547	Diamond HQ	295	430	C	176.6	1758.33	3676	Simple packer
K22R39	2646323	7080044	Diamond HQ	395	407	C	229	1426	4911	Airlift
				350	424	C*	253	1126	4365	Simple packer
K22R39	2646323	7080044	Diamond HQ	385	403	C	271	1140	4650	Airlift
K23D40	2645574	7083439	Diamond HQ	288	322	C	254	1011.5	4601	Simple packer
				350	360	C	213	893	4150	Simple packer
				360	390	C*	210	922.5	4116.5	Simple packer
				409	420	D	228	1053.5	3817	Simple packer
				436	445	D	243	944	4401	Simple packer
				461	470.5	D	240	947.5	4456	Simple packer
K23D40	2645574	7083439	Diamond HQ	485	496	D	241	962	4478	Simple packer
				521	530.5	D	229	901	4116.5	Simple packer
				538	550	D	235	937.5	4282	Simple packer
				566	575.5	D	229	917.5	4233.5	Simple packer
				587	601	D	224	911	4146.5	Simple packer
				602	610	D	209	907.5	3893.5	Simple packer
				371.96	383.76	C	212	982.5	4280.5	Airlift
K24D41	2646495	7068815	Diamond HQ	166	175	A	271	895	6259	Simple packer

K24D41	2646495	7068815	Diamond HQ	**191**	**200**	**A**	**266**	**941.5**	**6762.5**	**Simple packer**
				215	226	B	309.5	1165.5	6750.5	Simple packer
				242	250	B	348	1170.5	6803	Simple packer
				265	277	B	346	710.5	5738	Simple packer
				289	300	C	278.5	718	4864	Simple packer
				315	325	C	269	680	4884.5	Simple packer
				341	350	C	260.5	606.5	4844.5	Simple packer
				379	391	C	273	654	4835.5	Simple packer
				389	400	C	276	595	4801.5	Simple packer
				415	426	D	325	566	4939	Simple packer
				440	450	D	275	568.5	4718.5	Simple packer
				466	475	D	237	835	4483	Simple packer
				490	500	D	231	811.5	4496.5	Simple packer
				518	526	D	217.5	806.5	4679	Simple packer
				539	550	D	205	812	4419	Simple packer
				565	575	D	234.5	813	4610.5	Simple packer
				599	610	D**	211.5	957	4427	Simple packer
				395	410	C	385	709	5249	Airlift

Notes: 1) Easting and northing are provided in Posgar 94 / Argentina 2; 2) Where sample results are available from the primary and check laboratories, the values are averaged; 3) Samples from pumping tests are averaged for the various times.:4) *Samples not included in resource estimate due to overlapped sample intervals; 5) **Sample not included in the resource estimate.

Section 1

Sampling Techniques and Data

(Criteria in this section apply to all succeeding sections.)

Criteria		Section 1 – Sampling Techniques and Data
Sampling techniques	▪ Nature and quality of sampling (e.g., cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc). These examples should not be taken as limiting the broad meaning of sampling. ▪ Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used. ▪ Aspects of the determination of mineralisation that are Material to the Public Report. ▪ In cases where 'industry standard' work has been done this would be relatively simple (e.g. 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (e.g. submarine nodules) may warrant disclosure of detailed information.	▪ Brine samples were taken from multiple sampling methods from diamond core and rotary drilling methods including: o Bottom of hole spear point during HQ diamond core drilling advance o Straddle and single 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, which is lined with black plastic to avoid leakage. Single packer sampling is the current standard form of sampling. o Installed standpipes with discrete screening intervals. o Bailer sampling during advance, removing significant brine volumes to draw formation fluids into the base of the drill stem. ▪ Development of test wells and during pumping test of varying durations. ▪ The brine sample was collected in clean plastic bottles (1 litre) and filled to the top to minimize air space within the bottle. Duplicate samples were submitted at a high frequency, to allow statistical evaluation of laboratory results. These were collected at the same time as the primary samples 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 lexan tubes to minimize sample disturbance. ▪ Drill core was undertaken to obtain representative samples of the sediments that host brine, being collected and stored in Lexan Tubes, in order to collect samples that are as little disturbed as possible.
Drilling techniques	▪ Drill type (e.g. core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (e.g. core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other	▪ 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

	type, whether core is oriented and if so, by what method, etc).	produced drill chips, which have been logged and holes geophysically logged. ▪ Brine has been used as drilling fluid for lubrication during drilling, for mixing of additives and muds.
Drill sample recovery	▪ Method of recording and assessing core and chip sample recoveries and results assessed. ▪ Measures taken to maximise sample recovery and ensure representative nature of the samples. ▪ Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.	▪ Diamond drill core was recovered in 1.5 – 3m length intervals in the drilling triple (split) tubes. Appropriate additives were used for hole stability to maximize core recovery. The core recovered from each run was measured 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 variable intervals dependent on calliper logs at interval between 1 - 6 m intervals (to isolate intervals of the sediments and obtain samples from airlifting brine from the sediment interval isolated between the packers) and single packer configurations typically with 10 m intervals open at the base of the hole. This equipment is from Geopro, a reputable international supplier. ▪ Additives and muds are used to maintain hole stability and minimize sample washing away from the triple tube. ▪ 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	▪ Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies. ▪ Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography. ▪ The total length and percentage of the relevant intersections logged.	▪ Sand, clay, silt, and minor occurrences of ignimbrite were 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 geologist who also supervised taking of samples for laboratory porosity analysis (with samples drilled and collected in lexan polycarbonate tubes) 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. Cores are photographed for reference, prior to storage.
Sub-sampling techniques and sample	▪ If core, whether cut or sawn and whether quarter, half or all core taken. ▪ If non-core, whether riffled, tube sampled, rotary split,	▪ Brine samples were collected by inflatable packer, bailer and spear sampling methods, over a variable interval. Low pressure airlift tests are used as well to purge test interval and gauge potential yields (brine flows). Samples have also been collected during development of piezometers

preparation	etc and whether sampled wet or dry. ▪ For all sample types, the nature, quality and appropriateness of the sample preparation technique. ▪ Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples. ▪ Measures taken to ensure that the sampling is representative of the in-situ material collected, including for instance results for field duplicate/second-half sampling. ▪ Whether sample sizes are appropriate to the grain size of the material being sampled.	and test wells and during pumping tests of variable durations. ▪ 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. Duplicates were taken and submitted with standards as part of the QA/QC protocols.
Quality of assay data and laboratory tests	▪ The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total. ▪ For geophysical tools, spectrometers, handheld XRF instruments, etc, the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc. ▪ Nature of quality control procedures adopted (e.g. standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (i.e. lack of bias) and precision have been established.	▪ Analytical laboratory services are currently split between Alex Stewart International Argentina Jujuy, Argentina, and 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 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 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. ▪ QA/QC samples include field duplicates, standards and blank samples.
Verification of sampling and assaying	▪ The verification of significant intersections by either independent or alternative company personnel. ▪ The use of twinned holes. ▪ Documentation of primary	▪ 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, has been monitored by the insertion of standards, or reference samples, and by check analysis at an independent (or

	data, data entry procedures, data verification, data storage (physical and electronic) protocols. ▪ Discuss any adjustment to assay data.	umpire) laboratory. ▪ Duplicate samples in the analysis chain were submitted to Alex Stewart 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 on site, to collect field parameters. ▪ Regular calibration of the field equipment using standards and buffers is being undertaken.
Location of data points	▪ Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation. ▪ Specification of the grid system used. ▪ Quality and adequacy of topographic control.	▪ The diamond drill hole sample sites and rotary drill hole sites were located with a hand-held GPS and later located by a surveyor, with the majority of hole collars defined by the surveyor. ▪ The properties are located at the junction of the Argentine POSGAR grid system Zone 2 and Zone 3 (within UTM 19) and in WGS84 Zone 19 south. The Project is using Zone 2 as the reference zone, as the critical infrastructure is located on the edge of Zone 2.
Data spacing and distribution	▪ Data spacing for reporting of Exploration Results. ▪ Whether the data spacing, and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied. ▪ Whether sample compositing has been applied.	▪ Drill holes in the central area where Measured resources have been defined have a spacing of approximately 1.5 km between drill holes, with a greater spacing in the area where Inferred resources have been defined. ▪ Brine samples were generally collected over various intervals using straddle packers, single packers, spear points, and discrete screen intervals from installed piezometers with samples collected at variable intervals vertically, due to varying hole conditions and over the life of the Project different sampling techniques. The average distance between samples varies statistically based on duplicity. Where discrete intervals are considered with duplicate samples averaged, the sample separation is 36m. Where all sample are averaged over drill meters, sample separation is 19m. ▪ Compositing has been applied to porosity data obtained from the BMR geophysical tool, as data is collected at closer than 10 cm intervals, providing extensive data, particularly compared to the available assay data.
Orientation of data in relation to geological structure	▪ Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type. ▪ If the relationship between the drilling orientation and	▪ The salt lake (salar) deposits that contain lithium-bearing brines generally have horizontal to sub-horizontal beds and lenses that contain sand, gravel, salt, silt and clay. The vertical diamond drill and rotary holes provide the best understanding of the stratigraphy and the nature of the sub-surface brine bearing aquifers. ▪ Geological structures are important for the formation of

	the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material.	salar basins, but not as a host to brine mineralization.
Sample security	▪ The measures taken to ensure sample security.	▪ Samples were transported to the Alex Stewart/Norlab SA or SGS laboratories 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 to the office in Catamarca and then sent by DHL couriers to the laboratories. ▪ 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.
Review (and Audit)	▪ The results of any audits or reviews of sampling techniques and data.	▪ An audit of the database has been conducted by the CP and another Senior Consultant at different times during the Project and prior to finalization of the samples to be used in the resource estimate. The CP has been onsite periodically during the sampling program. The review included drilling practice, geological logging, sampling methodologies for brine 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, with constant review of the database by independent personnel recommended. Additionally, an external review of field sampling procedures and data collection was undertaken by Geoff Baldwin in April 2023. An external peer review of the November 2023 resource update was performed by John Houston.

Section 2

Reporting of Exploration Results

(Criteria listed in the preceding section also apply to this section.)

Criteria		Section 2 – Reporting of Exploration Results
Mineral tenement and land tenure status	▪ Type, reference name / number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings. ▪ The security of the tenure held at the time of reporting along with any known impediments to obtaining a licence to operate in the area.	▪ The Kachi Lithium Brine Project is located approximately 100km south-southwest of Livent'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 104375.6 Ha in fifty-three (53) mineral leases (minas), including one lease (Morena 10 – 2712.9 Ha) with a pending application. Details of the properties are provided in the June 15th ASX announcement. ▪ The tenements are believed to be in good standing, with statutory payments completed to relevant government departments.
Exploration by other parties	▪ Acknowledgment and appraisal of 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 commenced 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. ▪ A 375 m deep borehole on the Luz María tenement drilled by the former owner NRG Metals, which published the lithium concentration data, as between 141 and 144 mg/L lithium. The sample from 50 bgs is noted as being extracted from the well during pumping, although the exact period of pumping and well completion interval are unknown and the results cannot be independently verified. The Xantippe data provide further evidence for the interpreted large-scale spatial extent of the lithium brine resource beyond the drillholes to the north and east and beneath the volcano. ▪ No other exploration results were able to be located.
Geology	▪ Deposit type, geological setting and style of mineralisation.	▪ The known sediments within the salar consist of a thin (several metre thick) salt/halite surficial layer, with interbedded clay, sand and silt horizons, accumulated in the salar from terrestrial sedimentation and evaporation of brines.

		▪ Brines within the Salt Lake are formed by evapoconcentration, 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	▪ A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes: ▪ easting and northing of the drill hole collar ▪ elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar ▪ dip and azimuth of the hole ▪ down hole width and depth (length and interception depth) ▪ end of hole (hole length). ▪ If the exclusion of this information is justified on the basis that the information is not Material and this exclusion does not detract from the understanding of the report, the Competent Person should clearly explain why this is the case.	▪ Refer to Table 6 above. ▪ 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). ▪ Coordinates and depths of holes are provided above in the report in the Gauss Kruger Zone 2. Elevations are measured by a surveyor, except for the most recently completed holes. ▪ Assay results are provided in a table above in the report. ▪ Drill hole information is shown in plans included. ▪ Refer to Figure 5 of this announcement, and previous ASX announcements for detailed lithological descriptions (e.g., October 4, 2023; August 22, 2023; November 22, 2023.)
Data aggregation methods	▪ In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (e.g. cutting of high grades) and cut-off grades are usually Material and should be stated. ▪ Where aggregate intercepts incorporate short lengths of high-grade results and longer lengths of low grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be	▪ Assay averages have been provided where multiple sampling occurs in the same sampling interval. A considerable number of samples were sent to the two laboratories, and averages of these results were used for the resource estimation. ▪ No cutting of lithium concentrations was justified nor undertaken. ▪ Lithium samples are by nature composites of brine over intervals of metres, due to the fluid nature of brine.

	shown in detail. ▪ The assumptions used for any reporting of metal equivalent values should be clearly stated.	
Relationship between mineralisation widths and intercept lengths	▪ These relationships are particularly important in the reporting of Exploration Results. ▪ If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported. ▪ If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (e.g. 'down hole length, true width not known').	▪ Mineralisation is interpreted to be horizontally lying and drilling perpendicular to this, so intersections are considered true thicknesses Brine is likely to extend to the base of the Carachi Pamap basin, although this has yet to be confirmed by drilling. ▪ Mineralisation is continuous and sampling, despite intersecting intervals of lower grade in places within the resource has not identified volumes of brine with what are likely to be sub-economic concentrations within the resource. However, the reader is advised that a reserve has yet to be defined for the Project.
Diagrams	▪ Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported These should include, but not be limited to a plan view of drill hole collar locations and appropriate sectional views.	▪ A drill hole location plan is provided showing the locations of the drill platforms (Figure 6 and Figure 7) ▪ Drill hole information is showing in plans included. ▪ Refer to October 4, 2023, August 22, 2023 and June 15, 2023 ASX announcement for recent detailed lithological descriptions.
Balanced reporting	▪ Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.	▪ Brine assay results are available from 38 resource drill holes from the drilling to date, reported here as shown in Table 6. Additional information will be provided as it becomes available.
Other substantive exploration data	▪ Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical survey results; geochemical survey results; bulk samples – size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics;	▪ There is no other substantive exploration data available regarding the Project. Additional surface geophysics is planned for the Project. A pilot plant is currently operating at the Project to assess extraction of lithium. ▪ Positive extraction and injection test results were reported in the August 16, 2023 ASX announcement.

	potential deleterious or contaminating substances.	
Further work	▪ The nature and scale of planned further work (e.g. tests for lateral extensions or depth extensions or large-scale step-out drilling). ▪ Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.	▪ The Company has drilled approximately 12,600 m of diamond and rotary drilling to date. Currently drilling is underway to continue resource classification upgrade and expansion.

SECTION 3

Estimation and Reporting of Mineral Resources

(Criteria listed in section 1, and where relevant in section 2, also apply to this section.)

Criteria		Section 3 – Estimation and Reporting of Mineral Resources
Database integrity	▪ Measures taken to ensure that data has not been corrupted by, for example, transcription or keying errors, between its initial collection and its use for Mineral Resource estimation purposes. ▪ Data validation procedures used.	▪ Data was transferred directly from laboratory spreadsheets to the database. ▪ Data was checked for transcription errors when 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. ▪ BMR geophysical log data has been compared with laboratory porosity values and provides a more continuous but more conservative estimate of drainable porosity (Sy). ▪ Comparisons of original and current datasets were made to ensure no lack of integrity. ▪ A detailed statistical analysis of the resource data set was completed and presented in the Appendix of the November 22, 2023 ASX announcement.
Site visits	▪ Comment on any site visits undertaken by the Competent Person and the outcome of those visits. ▪ If no site visits have been undertaken indicate why this is the case.	▪ The Competent Person visited the site multiple times during the drilling and sampling program. ▪ Procedures have been modified throughout the project to date aimed at improving data and sample recovery, working closely with the drilling superintendent to achieve this.
Geological interpretation	▪ Confidence in (or conversely, the uncertainty of) the geological interpretation of the mineral deposit. ▪ Nature of the data used and of any assumptions made. ▪ The effect, if any, of alternative interpretations on Mineral Resource estimation. ▪ The use of geology in guiding and controlling Mineral resource	▪ There is a high level of confidence in the geological interpretation of for the Project, with the three units identified in logging and down hole geophysics. There are relatively consistent sub horizontal geological units with intercalated clastic sediments consisting of sands, sits clays and minor gravel. ▪ Any alternative interpretations are restricted to smaller scale variations in sedimentology, related to changes in grain size and fine material in units, or a larger scale grouping of sediments, as changes between units are relatively minor. Such changes would not have a significant impact of the resource estimate. ▪ Data used in the interpretation includes rotary and diamond drilling methods. ▪ Drilling depths and geology encountered has been used

	estimation. ▪ The factors affecting continuity both of grade and geology	to conceptualize hydrostratigraphy and build the geologic model units. ▪ Sedimentary processes affect the continuity of geology with extensive lateral continuity in the salar area, and the presence of additional overlying gravels further from the salar, whereas the concentration of lithium and other elements in the brine is related to water inflows, evaporation and brine evolution.
Dimensions	▪ The extent and variability of the Mineral Resource expressed as length (along strike or otherwise), plan width, and depth below surface to the upper and lower limits of the Mineral Resource.	▪ The lateral extent of the resource has been defined by the boundary of the Company's properties, the outline of the Kachi volcano and the range of mountains to the west. The brine mineralisation covers approximately 274.8 km2 to date. ▪ 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 600 m depth. The basement rocks underlying the salt lake sediments have been intersected in drilling from the SE of the salar. ▪ The resource is defined to a depth of 600 m below surface, with the exploration target extending beyond the areal extend of the resource, under the volcano and also between the base of the resource and the interpreted depth of the basement.
Estimation and modelling techniques	▪ The nature and appropriateness of the estimation technique(s) applied and key assumptions, including treatment of extreme grade values, domaining, interpolation parameters and maximum distance of extrapolation from data points. If a computer assisted estimation method was chosen include a description of computer software and parameters used. ▪ The availability of check estimates, previous estimates and/or mine production records and whether the Mineral Resource estimate takes appropriate account of such data. ▪ The assumptions made regarding recovery of by-	▪ Ordinary Kriging was applied to the composited BMR porosity date, to reduce the 200,000 individual measurements to a smaller number. The Inverse Distance Squared method was used to estimate the distribution of lithium through the resource, given the much smaller number of assays available. ▪ The resource with a 2.5 km radius was estimated in two passes with a search ellipse of 1500 and 4000 m respectively. ▪ The resource between 2.5 and 5 km of drill holes was estimated using three expanding search ellipses of 1500, 4000 and 7000 m, to encompass all of the data. ▪ Three essentially horizontal hydrostratigraphic units were defined in the salar area, based on geological logging and downhole geophysics. These have different amounts of sand, silt and clay content, with lithium concentration varying slightly between units. ▪ The resource was estimated with soft boundaries and a horizontal search ellipse, to reflect the horizontal continuity of geological units. Lithium concentration appears independent of the geological units, and differences in porosity between units are relatively slight. ▪ No grade cutting or capping was applied to the model. ▪ Check estimates were conducted using different

	products. ▪ Estimation of deleterious elements or other non-grade variables of economic significance (e.g. sulphur for acid mine drainage characterisation). ▪ In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed. ▪ Any assumptions behind modelling of selective mining units. ▪ Any assumptions about correlation between variables. ▪ Description of how the geological interpretation was used to control the resource estimates. ▪ Discussion of basis for using or not using grade cutting or capping. ▪ The process of validation, the checking process used, the comparison of model data to drill hole data, and use of reconciliation data if available.	estimators, with a version of the model estimated entirely with Inverse Distance Squared methodology and another with ordinary kriging and one using the Leapfrog Radial Basis Function. ▪ No assumptions were made about correlation between variables or recovery of by-products. Lithium is the value proposition of the project. ▪ The brine contains other elements in addition to lithium, such as magnesium and sodium, which can be considered deleterious elements. The project plan considers extraction of lithium via a DLE (Direct Lithium Extraction) process, where extraction of lithium is independent of other elements, which remain in the brine. ▪ Model blocks are defined as 400 by 400 m blocks in an east and north direction and 10 m in the vertical direction. ▪ Extraction of brine permits limited control of selective mining and selective mining units are not considered, as the resource is relatively homogeneous. ▪ The development of the inner three-layer model and outer homogeneous layer in the alluvial gravels/fans, with essentially horizonal layers, was used to define the search ellipses to control the resource estimation. ▪ Visual comparison has been conducted of drill hole results and the block model, together with a comparison of sample statistics and the block model statistics. The result is considered to be acceptable.
Moisture	▪ Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.	▪ Moisture content of the cores was not Measured with regards to consideration of density and moisture content. In brine projects the contained content of brine fluid is an integral part of the project and porosity, drainable porosity (Sy) and sediment density measurements were made. As brine will be extracted by pumping not mining moisture content (in regard to density) is not relevant for the brine resource estimation. ▪ Tonnages are estimated as metallic lithium dissolved in brine. ▪ Tonnages are then converted to a Lithium Carbonate Equivalent tonnage by multiplying by the factor of 5.32, which takes account of the presence of carbon and oxygen in Li2CO3, compared to metallic lithium.
Cut-off parameters	▪ The basis of the adopted cut-off grade(s) or quality parameters applied.	▪ Grade-tonnage curves for the Project (see November 22, 2023 ASX Announcement) indicate that a cut-off grade of 150 mg/L would result in less than a 0.1% reduction in total lithium resource. As a result, Mineral Resources are estimated utilizing a conservative cut-off grade of 150 mg/L lithium.

		▪ The proposed DLE technology has been demonstrated to operate cost-effectively at much lower lithium concentrations (e.g., less than 75 mg/L). Effectively no Mineral Resources have been quantified below 150 mg/L, however, the opportunity exists for incorporation of lower grade resources should they be discovered or otherwise evolve at the planned extraction wells. In this instance, the cut-off grade could be revised lower based on operating costs for the lithium grade considered
Mining factors or assumptions	▪ Assumptions made regarding possible mining methods, minimum mining dimensions and internal (or, if applicable, external) mining dilution. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential mining methods, but the assumptions made regarding mining methods and parameters when estimating Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the mining assumptions made.	▪ The resource has been quoted in terms of brine volume, concentration of dissolved elements, contained lithium and lithium carbonate. ▪ 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 = pumping methodology). ▪ Mining of the brine will be completed using extraction wells with the layout presented in Figure 16. Extraction and injection well designs and related pumping systems have been developed to a DFS level as part of the well field development plan (DBSA, 2023). ▪ As noted above, the mine plan inclusive of well locations, well depths and the pumping schedule have been simulated in the numerical flow and transport model. “Particle tracking” is used to determine the origin of the brine being captured by the extraction wells. If the origin of the particle is within the Measured Resource it is converted to Proved Reserve. If the origin of the particle is Indicated Resource then it is converted to Probable. ▪ The Proved Ore Reserve is limited in time to 7-years from the start of mining to account for the fluid nature of the resource and acknowledgement that model predictions further out in time have a lower level of confidence. With additional data and model updates, the Probable Ore Reserve can likely be converted to Proved. ▪ Particle tracking indicates no recovery of Inferred Resource over the LoM and Inferred Resources have not been used in the Ore Reserve estimate. ▪ Assumptions inherent to the numerical model include the premise that the calibrated model is a reliable predictive tool. The hydrogeological parameters are discussed extensively throughout this announcement and include but are not limited to the pumping schedule (Figure 16), well field layout (Figure 17), calibrated hydraulic parameters (Table 7) and dispersivity estimates of 10 m, 0.1 m and 0.01 m for longitudinal, transverse and vertical, respectively. ▪ The overall process plant lithium recovery rate is conservatively assumed to be 75%. This includes DLE

		and any losses in other processes. ▪ After lithium extraction spent brine will be injected back into the reservoir at the locations shown in Figure 16. ▪ Dilution of the lithium brine from natural sources and from spent brine injection is explicitly simulated in the model. Dilution after 25-years of operations is about 10% as discussed in the text and presented in Figure 23. However, average lithium grades even in Year 25 are well above the design basis for the Project. ▪ The Mine Plan extracts less than 15% of the Measured and Indicated Resource over the LoM. ▪ Infrastructure required for mining extraction and injection wells, surface pumping networks and pumping infrastructure, storage ponds, raw water wells and pipelines, and monitoring and communications equipment.
Metallurgical factors or assumptions	▪ The basis for assumptions or predictions regarding metallurgical amenability. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential metallurgical methods, but the assumptions regarding metallurgical treatment processes and parameters made when reporting Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the metallurgical assumptions made.	▪ The metallurgical process proposed for extraction of lithium from the resource feed brine is Direct Lithium Extraction (DLE), using an ion exchange (IX) extraction method, which is a proven technology used extensively in water treatment and mineral recovery. Lilac Solutions has developed a novel ion exchange media for selective extraction of lithium from high total dissolved solids (TDS) brine. ▪ Lithium chloride eluate (LiCl) produced from the DLE system is purified and concentrated using conventional Reverse Osmosis (RO), Evaporation, and impurity precipitation technology. ▪ The purified and concentrated LiCl solution is converted to lithium carbonate via conventional carbonation process using sodium carbonate reagent to precipitate lithium carbonate. ▪ The ion exchange DLE process has been tested at bench-scale, pilot-scale, and demonstration-scale with thousands of hours of batch and continuous test work. Real brine feed from the Kachi site has been used for all levels of testing. Bench and pilot scale testing were carried out at the Lilac Solutions research and development laboratory in Oakland, California. Demonstration scale testing was carried out via an on-site demonstration unit that operated in campaigns from October 2022 to November 2023 , processed over 5.2 million litres of brine and produced over 200,000 litres of concentrated lithium chloride product. ▪ Analytical sample validation was carried out by Lilac Solutions laboratory in Oakland, California and Lilac's on-site analytical laboratory at the Kachi Demonstration plant. Independent third-party validation analysis was also performed using inductively coupled plasma optical emission spectroscopy (ICP-OES)on hundreds of select samples by accredited commercial laboratories SGS, Kemetco Research Inc. and McCampbell Analytical at

		facilities in Argentina, Canada, and the United States. ▪ Balance of plant (BOP) eluate purification, concentration, and lithium carbonate production test work was carried out by Lilac Solutions at their research and development laboratory in Oakland, California. Additional bench-scale test work (1000 L) was completed by Hazen Research in Golden, Colorado. Bench scale (20 L), pilot scale (1000 L) and demonstration scale (120,000 L) test work was conducted by Saltworks Technologies in Richmond, British Columbia to validate the BOP process for battery grade lithium carbonate production from Kachi brine via Lilac Solution ion exchange DLE technology.
Environmental factors or assumptions	▪ Assumptions made regarding possible waste and process residue disposal options. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider the potential environmental impacts of the mining and processing operation. While at this stage the determination of potential environmental impacts, particularly for a greenfields project, may not always be well advanced, the status of early consideration of these potential environmental impacts should be reported. Where these aspects have not been considered this should be reported with an explanation of the environmental assumptions made.	▪ A high degree of consideration has been given to field development planning that will minimise impact on sensitive environmental areas. ▪ Process water recovery early in the project will minimise freshwater resource impacts. ▪ The production / exploitation environmental impact assessment is well advanced and have been undertaken in parallel with the Resource and Reserve estimation process. ▪ Lake Resources is taking the initiative with regards to the permitting process early and ensuring environmental protection requirements are considered in the project design. ▪ The Kachi Project currently has valid exploration environmental impact assessment approved in 2017, and updated in accordance with the established legislation, with the latest renewal in November 2022 and valid until November 2024. Additionally, the Kachi Project holds other sectoral permits including for chemical precursors, fuel tanks, freshwater use, hazardous waste, black water permit and local industrial permit. ▪ Numerical modelling indicates that operational impacts to sensitive areas will be small and within expected ranges of natural seasonal variations because of the Lake's injection strategy which maintains reservoir and aquifer pressures during operations in sensitive areas. ▪ The Kachi Project have obtained a temporary freshwater extraction permit for a period of one year (valid until September 2024), authorizing the extraction from 4 wells at a rate of 64m3 per day. Activity is underway to secure the definitive permit for future phases.
Bulk density	▪ Whether assumed or determined. If assumed, the basis for the assumptions. If determined, the method used, whether wet or dry, the frequency of the measurements, the nature, size and	▪ 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, so density measurements are not directly relevant for resource estimation, as brine is to be extracted by pumping and consequently sediments are not actively mined. The

	representativeness of the samples. ▪ The bulk density for bulk material must have been measured by methods that adequately account for void spaces (vugs, porosity, etc), moisture and differences between rock and alteration zones within the deposit. ▪ Discuss assumptions for bulk density estimates used in the evaluation process of the different materials.	lithium is extracted by pumping of mineral bearing brine. ▪ No bulk density was applied to the estimates because resources are defined by volume, rather than by tonnage.
Classification	▪ The basis for the classification of the Mineral Resources into varying confidence categories. ▪ Whether appropriate account has been taken of all relevant factors (i.e. relative confidence in tonnage/grade estimations, reliability of input data, confidence in continuity of geology and metal values, quality, quantity and distribution of the data). ▪ Whether the result appropriately reflects the Competent Person's view of the deposit.	▪ The resource has been classified into two possible resource categories based on confidence in the estimation. ▪ The Measured resource, within a 2.5 km radius of drill holes, reflects the predominance of drilling with a spacing of approximately 1.5 km between holes. This classification reflects the suggestion of Houston et. Al., 2011 regarding the classification of resources. Porosity measurements have been made in these diamond and rotary holes with the BMR porosity tool, providing 200,000 individual measurements. Any measurements that were related to washouts in holes were removed and porosity data was composited to 10 m data points. Physical porosity samples were also taken and compared with BMR porosity data, with samples from drill cores well constrained within the holes. These samples have an overall higher average porosity, but sampling was less systematic than the BMR porosity data, which was used in preference, with the laboratory data as a check on this data source. ▪ The Inferred resource surrounding the Measured resource in the properties reflects more limited drilling in the surrounding area, and locations closer to the border of the basin. Some additional lithium assay data will be incorporated into the next resource that is likely to result in conversion of part of the Inferred resource to Measured or Inferred resources. This classification includes holes and data within 5 km of holes. Brine within this radius has been classified more conservatively as Inferred resources than the suggestion of Houston et. Al., 2011 regarding the classification of resources. It is expected that with further drilling much of the Inferred resources can be converted to Indicated resources. ▪ There are currently no Indicated resources defined in the project. 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 results of any audits or reviews of Mineral Resource estimates.	▪ Estimation of the Mineral Resource was supervised by the Competent Person. ▪ An audit of sampling and field procedures was undertaken by Geoffrey Balwin in February 2023.

SECTION 4

Estimation and Reporting of Mineral Ore Reserves

(Criteria listed in section 1, and where relevant in section 2 and 3, also apply to this section.)

Criteria		Section 4 - Estimation and Reporting of Mineral Resources
Mineral Resource estimate for conversion to Ore Reserves	▪ Description of the Mineral Resource estimate used as a basis for the conversion to an Ore Reserve. ▪ Clear statement as to whether the Mineral Resources are reported additional to, or inclusive of, the Ore Reserves.	▪ The Mineral Resource estimate used as the basis of the Ore Reserve analysis is detailed in the November 22, 2023 ASX Announcement with additional details provided in Appendix A of the announcement. ▪ Lake Resources has undertaken a considerable amount of exploration drilling, sampling and processing test work such that the Kachi Resource has now been revised with Measured and Indicated Resource in excess of 7.3 Mt allowing Reserve Estimation and Definitive Feasibility Studies to be completed. ▪ The Mineral Resource estimate was completed by the Andy Fulton, the CP that also led the Ore Reserve estimates. ▪ Additional details on the Mineral Resource estimate are provided in Section 3 above. ▪ The mineral resource is inclusive of Ore Reserves
Site Visits	▪ Comment on any site visits undertaken by the Competent Person and the outcome of those visits. ▪ If no site visits have been undertaken indicate why this is the case.	▪ Regular site visits by the CP have been undertaken since early in the project, including two site visits in 2023. ▪ Close coordination with CP and Lakes Resources technical team throughout exploration program and resource / reserve estimation programs.
Study Status	▪ The type and level of study undertaken to enable Mineral Resources to be converted to Ore Reserves. ▪ The Code requires that a study to at least Pre-Feasibility Study level has been undertaken to convert Mineral Resources to Ore Reserves. Such studies will have been carried out and will have determined a mine plan that is technically achievable and economically viable, and that material Modifying Factors have been considered.	▪ A Definitive Feasibility Study (DFS) is being issued concurrently with this Ore Reserve statement for the Kachi Project. ▪ DFS study work has defined well field development plans (i.e., mine plan) for Kachi are based on a well-defined resource model and dynamic numerical flow and transport model with a geologic framework consistent with the resource model. ▪ Key components of the study that underpin the Ore Reserve calculation encompass sampling and analytical methods, the development of the geologic and Mineral Resource models, understanding of brine and sediment properties and their variability, large scale and long duration pumping and injection tests of 12, 15 and 31 days. ▪ These data formed the basis for the numerical flow and transport models and the models were calibrated to historical data including water and brine levels, laguna

		lake stage, spring flows, drawdown and mounding during pumping and injection tests. ▪ The models consider variable density flow to capture dynamics associated with shallow freshwater aquifers and dense brine present both in portions of the shallow system and at depth. ▪ This comprehensive approach culminated in the creation of integrated numerical models that serve as the basis for the Ore Reserve assessment. As a result, there is a reasonable level of confidence that Kachi will be able to extract the specified quantities and grades of brine, as presented in this ASX Announcement. It's important to note that the estimates provided here are considered reasonable based on the data available at the time this Competent Persons Statement was prepared. ▪ The mine plan for a brine project is the well field layout, well depths and construction details and the pumping schedule haven been designed to a DFS level. The mine plan has been simulated in the numerical model and the results. The model results demonstrate it is technically achievable. ▪ The project material balance carries a total lithium recovery factor of 75% from lithium extraction through final lithium product. This recovery has been used in the technical and economic assessments of the project. ▪ Costs and modifying factors have been extensively considered, as discussed in this document, other portions of Section 4 and the DFS concurrently released with this announcement.
Cut-off parameters	▪ The basis of the cut-off grade(s) or quality parameters applied.	▪ Grade-tonnage curves for the Project (see November 22, 2023 ASX Announcement) indicate that a cut-off grade of 150 mg/L would result in less than a 0.1% reduction in total lithium resource. As a result, Mineral Resources are estimated utilizing a conservative cut-off grade of 150 mg/L lithium. ▪ The proposed DLE technology has been demonstrated to operate cost-effectively at much lower lithium concentrations (e.g., less than 75 mg/L). Effectively no Mineral Resources have been quantified below 150 mg/L, however, the opportunity exists for incorporation of lower grade resources should they be discovered or otherwise evolve at the planned extraction wells. In this instance, the cut-off grade could be revised lower based on operating costs for the lithium grade considered
Mining factors or assumptions	▪ The method and assumptions used as reported in the Pre-Feasibility or Feasibility Study to convert the Mineral Resource to an Ore Reserve (i.e. either by application of appropriate	▪ Mining of the brine will be completed using extraction wells with the layout presented in Figure 16. Extraction and injection well designs and related pumping systems have been developed to a DFS level as part of the well field development plan (DBSA, 2023). ▪ As noted above, the mine plan inclusive of well locations, well depths and the pumping schedule have

	factors by optimisation or by preliminary or detailed design). ▪ The choice, nature and appropriateness of the selected mining method(s) and other mining parameters including associated design issues such as pre-strip, access, etc. ▪ The assumptions made regarding geotechnical parameters (eg pit slopes, stope sizes, etc), grade control and pre-production drilling. ▪ The major assumptions made and Mineral Resource model used for pit and stope optimisation (if appropriate). ▪ The mining dilution factors used. ▪ The mining recovery factors used. Any minimum mining widths used. ▪ The manner in which Inferred Mineral Resources are utilised in mining studies and the sensitivity of the outcome to their inclusion. ▪ The infrastructure requirements of the selected mining methods.	been simulated in the numerical flow and transport model. "Particle tracking" is used to determine the origin of the brine being captured by the extraction wells. If the origin of the particle is within the Measured Resource it is converted to Proved Reserve. If the origin of the particle is Indicated Resource then it is converted to Probable. ▪ The Proved Ore Reserve it limited in time to 7-years from the start of mining to account for the fluid nature of the resource and acknowledgement that model predictions further out in time have a lower level of confidence. With additional data and model updates, the Probable Ore Reserve can likely be converted to Proved. ▪ Particle tracking indicates no recovery of Inferred Resource over the LoM and Inferred Resources have not been used in the Ore Reserve estimate. ▪ Assumptions inherent to the numerical model include the premise that the calibrated model is a reliable predictive tool. The hydrogeological parameters are discussed extensively throughout this announcement and include but are not limited to the pumping schedule (Figure 16), well field layout (Figure 17), calibrated hydraulic parameters (Table 7) and dispersivity estimates of 10 m, 0.1 m and 0.01 m for longitudinal, transverse, and vertical, respectively. ▪ The overall process plant lithium recovery rate is conservatively assumed to be 75%. This includes DLE and any losses in other processes. ▪ After lithium extraction spent brine will be injected back into the reservoir at the locations shown in Figure 16. ▪ Dilution of the lithium brine from natural sources and from spent brine injection is explicitly simulated in the model. Dilution after 25-years of operations is about 10% as discussed in the text and presented in Figure 23. However, average lithium grades even in Year 25 are well above the design basis for the Project. ▪ The Mine Plan extracts less than 15% of the Measured and Indicated Resource over the LoM. ▪ Infrastructure required for mining extraction and injection wells, surface pumping networks and pumping infrastructure, storage ponds, raw water wells and pipelines, and monitoring and communications equipment.
Metallurgical factors or assumptions	▪ The metallurgical process proposed and the appropriateness of that process to the style of mineralisation. ▪ Whether the metallurgical process is well-tested	▪ The metallurgical process proposed for extraction of lithium from the resource feed brine is Direct Lithium Extraction (DLE), using an ion exchange (IX) extraction method, which is a proven technology used extensively in water treatment and mineral recovery. Lilac Solutions has developed a novel ion exchange media for selective extraction of lithium from high total dissolved solids (TDS) brine.

	technology or novel in nature. ▪ The nature, amount and representativeness of metallurgical test work undertaken, the nature of the metallurgical domaining applied and the corresponding metallurgical recovery factors applied. ▪ Any assumptions or allowances made for deleterious elements. ▪ The existence of any bulk sample or pilot scale test work and the degree to which such samples are considered representative of the orebody as a whole. ▪ For minerals that are defined by a specification, has the ore reserve estimation been based on the appropriate mineralogy to meet the specifications?	▪ Lithium chloride eluate (LiCl) produced from the DLE system is purified and concentrated using conventional Reverse Osmosis (RO), Evaporation, and impurity precipitation technology. ▪ The purified and concentrated LiCl solution is converted to lithium carbonate via conventional carbonation process using sodium carbonate reagent to precipitate lithium carbonate. ▪ The ion exchange DLE process has been tested at bench-scale, pilot-scale, and demonstration-scale with thousands of hours of batch and continuous test work. Real brine feed from the Kachi site has been used for all levels of testing. Bench and pilot scale testing were carried out at the Lilac Solutions research and development laboratory in Oakland, California. Demonstration scale testing was carried out via an on-site demonstration unit that operated in campaigns from October 2022 to November 2023, processed over 5.2 million litres of brine and produced over 200,000 litres of concentrated lithium chloride product. ▪ Analytical sample validation was carried out by Lilac Solutions laboratory in Oakland, California and Lilac's on-site analytical laboratory at the Kachi Demonstration plant. Independent third-party validation analysis was also performed using inductively coupled plasma optical emission spectroscopy (ICP-OES) on hundreds of select samples by accredited commercial laboratories SGS, Kemetco Research Inc. and McCampbell Analytical at facilities in Argentina, Canada, and the United States. ▪ Balance of plant (BOP) eluate purification, concentration, and lithium carbonate production test work was carried out by Lilac Solutions at their research and development laboratory in Oakland, California. Additional bench-scale test work (1000 l) was completed by Hazen Research in Golden, Colorado. Bench scale (20 l), pilot scale (1000 l), and demonstration scale (120,000 l) test work was conducted by Saltworks Technologies in Richmond, British Columbia to validate the BOP process for battery grade lithium carbonate production from Kachi brine via Lilac Solution ion exchange DLE technology.
Environmental	▪ The status of studies of potential environmental impacts of the mining and processing operation. Details of waste rock characterisation and the consideration of potential sites, status of design options considered and, where applicable, the status of approvals for process residue storage and waste	▪ A high degree of consideration has been given to field development planning that will minimise impact on sensitive environmental areas. ▪ Process water recovery early in the project will minimise freshwater resource impacts. ▪ The production / exploitation environmental impact assessment is well advanced and have been undertaken in parallel with the Resource and Reserve estimation process. ▪ Lake Resources is taking the initiative with regards to the permitting process early and ensuring environmental

	dumps should be reported.	protection requirements are considered in the project design. The Kachi Project currently has valid exploration environmental impact assessment approved in 2017, and updated in accordance with the established legislation, with the latest renewal in November 2022 and valid until November 2024. Additionally, the Kachi Project holds other sectoral permits including for chemical precursors, fuel tanks, freshwater use, hazardous waste, black water permit and local industrial permit. ▪ Numerical modelling indicates that operational impacts to sensitive areas will be small and within expected ranges of natural seasonal variations because of the Lake's injection strategy which maintains reservoir and aquifer pressures during operations in sensitive areas. ▪ The Kachi Project have obtained a temporary freshwater extraction permit for a period of one year (valid until September 2024), authorizing the extraction from 4 wells at a rate of 64m3 per day. Activity is underway to secure the definitive permit for future phases.
Infrastructure	▪ The existence of appropriate infrastructure: availability of land for plant development, power, water, transportation (particularly for bulk commodities), labour, accommodation; or the ease with which the infrastructure can be provided, or accessed.	▪ Transportation analysis from the Argentine logistics company Transmining SA has been procured to ensure adequate allowance for transport is included in the cost-estimate for Kachi project. ▪ Kachi site freshwater availability for LoM has been confirmed by the hydrogeologic model. ▪ Power and accommodations are not available at site. Lake resources intends to advance the project with on-site power generation while a grid connection is added prior to steady state operation. The grid connection will involve contracting with an Independent Power Producer (IPP) in Argentina under a long-term Power Purchase Agreement (PPA). Dialogue has commenced with IPPs on a commercial process which will progress in 2024 and with the relevant regulatory bodies. For the DFS estimate a feasibility level study has been completed by Districuyo SA on routing, construction and operation of the line within the Argentina grid infrastructure. Please refer to the DFS summary report for more information. ▪ The Project will require construction of a construction camp and future operations camps, electricity infrastructure, pumping and pipes for brine extraction and reinjection, permitted water storage facilities, chemical and product storage facilities, and water purification facilities. Please refer to the DFS summary report for more information.
Cost	▪ The derivation of, or assumptions made, regarding projected capital costs in the study.	▪ The capital costs were estimated by Hatch engineering with input from project partners to produce a +/- 15% Class III estimate. The cost of the well field development was provided by Lake Resources and the capital costs

	▪ The methodology used to estimate operating costs. ▪ Allowances made for the content of deleterious elements. ▪ The source of exchange rates used in the study. ▪ Derivation of transportation charges. ▪ The basis for forecasting or source of treatment and refining charges, penalties for failure to meet specification, etc. ▪ The allowances made for royalties payable, both Government and private.	of the Lilac plant was a joint effort with quantities provided by Lilac and unit costs provided by Hatch. ▪ The operating costs were estimated by Hatch engineering with operating and IXM costs provided by Lilac and electricity rates provided by Districuyo SA. ▪ The Lilac IXM has been demonstrated to be robust to the deleterious elements of the brine. Future allowance is made for Barium Chloride addition to eliminate Sulphate impurities prior to lithium carbonation. Acid pre-treatment to facilitate metal removal is included in the design as well as costs associated with operating this pre-treatment, although it may not be required. ▪ Allowance for key taxes and charges include: • An Argentine Export tax of 4.5% of gross revenue • A Catamarca Province Royalty of 3.5%of Boca Mina value (e.g., mine head value) of extracted mineral for Catamarca province under the Mining Investment Law. As final royalty rates for the project are yet to be agreed with the Government of Catamarca, the mine head value has been provisionally set to represent lithium chloride revenues at a provisional price of $5,000/tonne. ▪ The Kachi project forecast includes production of Battery Grade Lithium Carbonate for the duration of the life of mine across the design range of brine chemistries. ▪ The Kachi project economic forecast utilizes a forward price projection provided in a DFS (See Lake Resources ASX Announcement 19 December 2023 entitled Lake Resources Kachi Project Phase One Definitive Feasibility Study) bespoke study commissioned by the project with Wood Mackenzie and delivered in December 2023. Prices for lithium carbonate considered in the economic evaluation correspond to CIF Asia contract prices in real 2023 terms. ▪ The annual forecast sales price for the period (2025 to 2050) was provided by Wood Mackenzie. This resulted in an average sales price for the model of $33,000 for the economic analysis for the Kachi project. ▪ All costs were estimated in US Dollars. These costs included facility wide costs, direct extraction package, reagents, lithium chemical plant, general and administrative expenses, transportation, power, export duties and government royalties. ▪ Operating expenditure excludes corporate overhead costs. Opex level is approximately $6k/tonne providing adequate headroom between operating cost and potential sales price. ▪ No private royalty agreement is included in the model.

		▪ Lake expects to produce one by-product at its Kachi plant – sodium hydroxide NaOH. Potential revenues from this have been applied as a by-product credit in operating expenditures for the Kachi project.
Revenue factors	▪ The derivation of, or assumptions made regarding revenue factors including head grade, metal or commodity price(s) exchange rates, transportation and treatment charges, penalties, net smelter returns, etc. ▪ The derivation of assumptions made of metal or commodity price(s), for the principal metals, minerals and co-products.	▪ The Kachi project forecast includes production of Battery Grade Lithium Carbonate for the duration of the life of mine across the design range of brine chemistries. ▪ The Kachi project economic forecast utilizes a forward price projection provided in a DFS bespoke study commissioned by the project with Wood Mackenzie and delivered in December 2023. Prices for lithium carbonate considered in the economic evaluation correspond to CIF Asia contract prices in real 2023 terms ▪ These prices do not reflect any assumptions of potential concessions or discounts that Lake may agree in the future with any potential Strategic Partners, Offtake Partners, Royalty Providers, or other type of project partner. ▪ The Kachi Project intends to enter long term binding offtake arrangements to support project financing. The final form of these agreements has not yet been finalized but they are intended to cover a significant proportion of production for the tenor of any debt facility and include a 'floor' mechanism. The Kachi Project has retained Goldman Sachs as Financial Adviser in connection with exploring a potential strategic partnership, which may involve offtake arrangements. Goldman Sachs begins the formal process of identifying a strategic partner in 2024. ▪ The impact of any future offtake contract agreements on pricing will be reflected in any subsequent bridging studies. ▪ The annual forecast sales price for the period (2025 to 2050) was provided by Wood Mackenzie. This resulted in an average sales price for the model of $33,000 for the economic analysis for the Kachi project.
Market assessment	▪ The demand, supply and stock situation for the particular commodity, consumption trends and factors likely to affect supply and demand into the future. ▪ A customer and competitor analysis along with the identification of likely market windows for the product. ▪ Price and volume forecasts and the basis for these	▪ Lithium demand has been increasing rapidly over the last few years primarily driven by demand for rechargeable batteries used in Electric Vehicles and the company is well placed to benefit from the increased demand related to electric vehicle uptake globally ▪ Lake Resources contracted Wood Mackenzie to conduct a lithium market study which included demand, supply, and pricing outlooks. ▪ Wood Mackenzie concluded that Kachi is strategically well positioned to benefit from the increasing demand for lithium around the world and particularly for battery grade lithium chemicals which show the most robust potential.

	forecasts. • For industrial minerals the customer specification, testing and acceptance requirements prior to a supply contract.	▪ Some upside and downside factors to lithium price were identified by Wood Mackenzie for the global lithium market, but none were specific to Kachi and are well counterbalanced by the strengths and opportunities Kachi' offers. Some of the upside risk factors include the US Inflation Reduction Act (IRA) and other sector policies that bolster CAM, gigafactory and EV rollout, greater and faster EV adoption, government policies towards regionalization and reshoring of key battery commodities, heightened geopolitical tension, consumer willingness to pay for "green" battery/lithium products and high levels of disruption at brine and hard rock projects that are currently operating. Some of the downside risk factors include persistent high inflation that generates weaker demand or slows industrial output, reversal of globalization and surge in geopolitical tension around the world, slower than expected adoption of EV technology and/or rapid expansion of Li-ion alternatives that push down long term demand, strengthening battery recycling processes and value chains could result in higher supply, and minimal disruptions to current supply combined with greenfield projects delivering on expectations could result in oversupply. ▪ Kachi plans to produce a final battery grade product, unlike many hard rock competitor companies. The Kachi project is well positioned, competitive with other (existing and forecast) new lithium projects as its run-rate operating (C1) costs are forecast to fall on the first quartile of the global cost curve when compared with other producers in the Benchmark Minerals Global Cost Model Q3 2023. ▪ The annual forecast sales price for the period (2025 to 2050) was provided by Wood Mackenzie. This resulted in an average sales price for the model of $33,000 for the economic analysis for the Kachi project.
Economic	▪ The inputs to the economic analysis to produce the net present value (NPV) in the study, the source and confidence of these economic inputs including estimated inflation, discount rate, etc. • NPV ranges and sensitivity to variations in the significant assumptions and inputs	▪ The project costs will be released to a Class III AACE estimate (+/-15%) with the imminent release of the DFS. The project cost assessment (Opex/ Capex) was completed by Hatch LTD engineering with input from Lilac on DLE costs, Lake resources on drilling and well field costs and Disticuoyo on electricity rates. ▪ Lake conducted a DFS level economic analysis using its own financial model developed with the assistance of KPMG. ▪ The economic evaluation was based on the brine flow rates from the production forecasts. The lithium carbonate production rate after ramp-up is assumed to peak at 25 ktpa and remain at peak until the last year of production. ▪ Mining industry practitioners typically undertake financial modelling using real NPV values, meaning it does not account for the effect of inflation or price escalation. The resultant cashflows are then discounted by a weighted

		average cost of capital or discount rate. Lake Resources conformed with this practice. ▪ A discount rate of 8% was applied to the cashflow in line with the industry average for lithium assets. ▪ Sensitivity analyses were conducted to evaluate the LCE prices, Opex and Capex. The Kachi Project is generally resilient to Opex and Capex factors and most sensitive to lithium price. ▪
Social	▪ The status of agreements with key stakeholders and matters leading to social licence to operate	▪ Lake's community relations team has initiated engagement and consultation activities at various levels, including local, state, and federal. They have put in place a comprehensive communications strategy to support these efforts. ▪
Other	▪ To the extent relevant, the impact of the following on the project and/or on the estimation and classification of the Ore Reserves: ▪ Any identified material naturally occurring risks. ▪ The status of material legal agreements and marketing arrangements. ▪ The status of governmental agreements and approvals critical to the viability of the project, such as mineral tenement status, and government and statutory approvals. There must be reasonable grounds to expect that all necessary Government approvals will be received within the timeframes anticipated in the Pre-Feasibility or Feasibility study. Highlight and discuss the materiality of any unresolved matter that is dependent on a third party on which extraction of the reserve is contingent.	▪ The DFS has identified a number of risk factors, both related to the natural environment and other aspects of the Kachi Project. The natural risks identified are considered to be manageable by application of a rigorous risk management process and include: • Finance Kachi Construction with Debt and Equity. Excessive debt affects interest payments, while abundant equity dilutes ownership, impacting future returns. Mitigation in place to include retention of appropriate expert advisors and completion of a robust business plan. • Possible gaps in emergency response capabilities may arise from inadequate leadership, untrained personnel, outdated equipment, and communication issues, leading to safety incidents. Mitigation includes periodic reviews, audits, training and newcomer inductions. • Permitting Failure impacting the Bank Loan. Mitigation includes retention of suitably experienced personnel and 3rd party consultant with experience of Equator Principles. • Critical Hazard: Release of Toxic Chlorine Gas and Explosive Hydrogen Gas from Chlor-Alkali Plant. Equipment failure poses dual risks of safety and environmental concerns. Malfunctions in machinery or systems elevates the potential for adverse impacts on the surrounding environment. Mitigation includes siting in the most appropriate area of the process plant to reduce occurrence severity and selection of experienced contractors for supply, delivery and operation. • Lithium demand price drop due to oversupply, from increased production or changing

		consumer behaviour, leads to a competitive market with surplus goods. This results in businesses losing revenue, facing financial challenges, impacting profitability and economic performance. Mitigation includes pursuing long term offtake agreements which include protection mechanisms such as a 'price floor'. • Exceeding planned capital costs due to inadequate control, underestimation of requirements, and miscalculation pose significant project risks. Delays in critical components and external factors like climatic events or civil unrest compound challenges, leading to higher costs, potential investor abandonment, startup delays or failure and insolvency threats. Mitigation includes selection of suitability skilled Project Director, adoption of pro-active approach to management and selection of the most appropriate EPCM contractor. • Raw material and contractor costs (Opex) escalate beyond current estimates. DFS failure to capture all operating costs, project cost escalation, flawed budgeting, procurement, logistics issues, and external shocks (e.g., inflation). Mitigation includes retaining suitably qualified Project Director, the application of appropriate contingency allowance and implementation of pro-active risk management processes. • Cooling tower performance, whether it be a dry cooling tower or a closed-loop system, arise from adverse weather conditions such as extreme heat, strong winds, cold temperatures or rain. Those unforeseen environmental factors, contribute to performance issues in cooling towers, whether dry or closed-loop. These unexpected elements result in additional costs, lost productivity, and necessitate process modifications, collectively impacting the overall operational efficiency of the cooling systems. Mitigation includes adoption of most appropriate design basis during future engineering phases • The project can have workforce challenges, including a limited pool of skilled workers, insufficient pre-hire training, and high turnover during rapid development. Mitigation includes strategic human relations management including training, careeer progression and competitive remuneration and benefits.package • Changing brine chemistry - The composition of the brine may change over time, moving outside the design range, leading to changes in

		system performance, requiring process modifications. Variability in feed product poses risks such as increased costs, lost productivity, and the need for process modifications. Mitigation includes extensive investigation and modelling during the DFS and taking a conservative position with respect to the basis of design. ▪ Material legal agreements are understood to be in good standing. The Kachi project tenements are granted as mining licenses. Such licenses have no expiry date so long as annual fees are paid, and all obligations are met under the national mining code. The Kachi project encompasses 52 mineral concessions covering 103,898 hectares. These are in good standing, with only one mineral property application still pending approval. The Project has not yet entered into binding offtake agreements. ▪ Whilst there can be no assurance that the Kachi Project will obtain all the permits it needs on time or at all, no reason is known of by the Company to expect delays to permit approvals based on the consultations that the Kachi Project has conducted with the regulatory agencies, local communities and other stakeholders. There are therefore reasonable grounds to expect that all necessary Government approvals will be received within the timeframes anticipated in the DFS.
Classification	▪ The basis for the classification of the Ore Reserves into varying confidence categories. ▪ Whether the result appropriately reflects the Competent Person's view of the deposit. ▪ The proportion of Probable Ore Reserves that have been derived from Measured Mineral Resources (if any).	▪ The Mineral Reserves CP is of the opinion that Lake has conducted sufficient geologic and hydrogeological and mineral processing test work to provide a high level of certainty for the modifying factors for Kachi Project. ▪ Mineral Ore Reserves are estimated for Proved and Probable classifications using the numerical model to determine the origin of the recovered brine from either the Measured or Indicated Resources. ▪ The Mineral Reserves estimate for Kachi is Proved at 170.3 kt LCE, and Probable at 454.1 kt LCE. The Mineral Reserves for Kachi are 85% derived from the Measured Mineral Resource mass estimated per Section 5.5 of this Reserves Estimate
Audits and Reviews	▪ The results of any audits or reviews of Ore Reserve estimates.	▪ An audit of sampling and field procedures was undertaken by Geoffrey Balwin in February 2023. ▪ Mineral Resource Estimation of November 2023 was independently reviewed by J Houston.
Discussion of relative accuracy/ confidence	▪ The infrastructure requirements of the selected mining methods.	▪ The accuracy of the Mineral Resource and Ore Reserve is influenced by several factors, including the quality and quantity of available data, as well as engineering and geological interpretation and judgment. Key components of the study that underpin the Ore Reserve calculation encompass sampling and analytical methods, the development of the 3D hydrostratigraphic mineral

		resource model, understanding of brine and sediment properties and their variability, and the creation and calibration of integrated numerical models for groundwater flow and mass transport. These tasks were carried out sequentially, with regular validation and calibration exercises conducted at each stage. ▪ Industry accepted guidance was recognised with respect to bore spacing. The M&I for which this Reserve Statement is based is defined by a compact exploration program with drill hole pattern well within the recommended maximum borehole spacing. ▪ All of the multiple parameter assessments have been undertaken with an inherent factor of safety. ▪ Sampling protocols have been adapted through the program based on QA/QC outcomes to reflect uncertainty of analytical result outside the control of the project. ▪ The reserve estimate is considered a local with respect to the previously stated resource estimate. The reserve component is located 100% within the previously announced M&I resource of which 94% is within Measured Resource. The resource which includes inferred is considered global. ▪ This comprehensive approach culminated in the creation of integrated numerical models that serve as the basis for the Ore Reserve assessment. As a result, there is a reasonable level of confidence that Kachi will be able to extract the specified quantities and grades of brine, as presented in this ASX Release. It's important to note that the estimates provided here are considered reasonable based on the data available at the time this Competent Persons Statement was prepared.